INSTINCT AS RELATED TO EDUCATION

By

John Milton McIndoo, Ph. D.

A DISSERTATION SUBMITTED TO THE FACULTY OF CLARK UNIVERSITY, WORCESTER, MASS., IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY, AND ACCEPTED ON THE RECOMMENDATION OF G. STANLEY HALL

DETROIT
PUBLISHED BY THE AUTHOR
1914.

Digitized by the Internet Archive
in 2026

https://archive.org/details/IA41549807_0217

56277.

INSTINCT AS RELATED TO EDUCATION

By

John Milton McIndoo, Ph. D.

A DISSERTATION SUBMITTED TO THE FACULTY OF CLARK UNIVERSITY, WORCESTER, MASS., IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY, AND ACCEPTED ON THE RECOMMENDATION OF G. STANLEY HALL

DETROIT
PUBLISHED BY THE AUTHOR
1914.

Copyright, 1914,
By JOHN MILTON McINDOO, PH. D.,
Detroit, Mich.

INSTINCT AS RELATED TO EDUCATION.[1]

by JOHN MILTON McINDOO, Ph. D.

PART I.

The question, "What shall we teach?" cannot be answered until after we have solved the problem of the spontaneous or native interests of the child. These native interests are determined by the innate or instinctive tendencies which function in the child according to pre-established laws laid down in his nervous system. On this point, McDougall, in his Social Psychology, says: "The human mind has certain innate or inherited tendencies which are the essential springs or motive powers of all thought and action, whether individual or collective, and are the bases from which the character and will of individuals and of nations are gradually developed under the guidance of the intellectual faculties."

If we could take any adult mind and remove the last accretion added to it, and the next, and so on till we came to the center of the complex accretions of years, we should find the very first firmly adhering to a native interest. If we could be permitted to continue this analysis of mental growth we should find these native interests as having resulted from the functioning of innate or instictive tendencies. These innate tendencies are the child's inheritance from the past, and, as stated above, evolve in him according to pre-established laws laid down as engrams in his nervous system. As these instinctive tendencies evolve, they function as native interests. Since this is racial, rather than individual, it is true of every normal child. Education must wait upon the genetic functioning of these innate tendencies, and through the native interests thus evolved, must find its way of approach to the child.

The work of educating the child is not the work of storing his mind with facts, but rather is it the work of furnishing the proper stimuli for his innate tendencies—to cause them to function properly and normally during their nascent periods.

---

[1] It would be impossible for the writer to acknowledge in detail the many sources from which he drew in preparing this thesis. He is especially indebted to the lectures and writings of President G. Stanley Hall and Dr. William H. Burnham, and to the personal guidance and inspiration of these able leaders in the fields of genetic psychology and education. He wishes also to acknowledge his indebtedness to Dr. Louis N. Wilson and his able corps of helpers, of the Clark University Library.

These tendencies are, in the earlier years of the child's life, general and varied in their manner of functioning. This makes it necessary that the mental pabulum furnished the child be rich and varied in its nature. The child is interested in things as wholes; with details his mind has little to do; but he is interested in a great many things. His mind is far larger in its range of tendencies and interests than any course of study. Courses of study should be radically revised and then highly enriched along the lines of the child's native interests.

Later on in this thesis in the treatment of each instinct, I shall attempt to show what the child is naturally interested in—that is, what his native interests are, arising from the genetic functioning of his innate tendencies or instincts. If the child's innate tendencies have been richly and widely stimulated, his mind will become a highly endowed apperception organ and he will possess a many-sided interest in things.

The genetic functioning of the instincts gives rise to nascent periods, a knowledge of which is of vast importance in the education of the child and adolescent. Without a knowledge of the nascent periods of these innate tendencies, we must ever blunder in our treatment of the child. The error of the school has been to see in the child the finished product of adulthood without, at the same time, seeing the many crooks and turns of the genetic highway along which the child and adolescent must travel before reaching the state of adulthood. The result has been to measure the child by adult standards and to use hot-bed methods all along the line to force the growth of the child—to make of him an adult before his time, and to produce on every hand cases of arrested development.

To understand the child, we must understand his instinctive life. In fact, this *is* the child. These instinctive tendencies are the sum total of the survival values that have been selected from the spontaneous variations, through natural selection, in the struggle of the race for existence. They are the very best that the past has to offer the future. On the stage of human consciousness each one of these race tendencies or instincts must play its part and stamp its impress upon the life of the child. Thus, the best that has survived from the experience of the race is recapitulated and laid down as permanent stratifications in the life of the child.

Concerning the importance of the innate tendencies and their universal possession by both man and the lower animals, McDougall, in his Social Psychology, writes as follows: "The evidence that the native basis of the human mind, constituted by the sum of these innate tendencies, has this stable, unchanging character, is afforded by comparative psychology. For we find not only these tendencies, in stronger or weaker degree, are present in men of all races now living on the earth, but that we may find all of them or at least the germs of them, in most of the higher animals. Hence, there can be little doubt that they played the same essential part in the minds

of the primitive human stock, or stocks, and in the pre-human ancestors that bridged the great gap in the evolutionary series between man and the animal world."

Educational systems, based first on one power or process of the human mind and then on another, have come and gone. Some made memory training their basis; some, sense training; some, the power or process of association, and still others, the Herbartians, of whom I shall speak later on, made the action and reaction of ideas one upon another, the basis of their educational system. Of these systems, the only one that still has any considerable degree of recognition is the last named, the Herbartian. Two or three decades ago Herbartian pedagogy dominated educational thought in this country, but is being rapidly supplanted by the child study movement, initiated by President Hall some thirty years ago, and since that time so vigorously prosecuted under his leadership. It is to this movement that this thesis aspires to be a contribution, the subject of which is the pedagogy of the instincts.

Since Darwin revolutionized biology by his theories of evolution, our most far-seeing psychologists have taken their cue from evolutionary biology. They have seen that the evolution of man, both physically and mentally, is only a continuation of the evolution of lower animal life; that in the earlier years of childhood the child recapitulates many of the mental and physical traits of animal life immediately below man, as is seen in comparing the child of a few months with apes and monkeys. Concerning Darwin's influence on psychology, McDougall writes as follows: "For it is only a comparative and evolutionary psychology that can provide the needed basis; and this could not be created before the work of Darwin had convinced men of the continuity of human with animal evolution as regards all bodily characters, and had prepared the way for the quickly following recognition of the similar continuity of man's mental evolution with that of the animal world."

Let us leave, for a time, the biological aspect of the subject, which we shall have need to refer to frequently, and take up the subject of interest. The term interest is so closely associated with the term Herbartianism that before entering upon a discussion of the subject of interest it is necessary to give some attention to the notion of interest as held by Herbart and some of his so-called followers. In this brief discussion of Herbart's notion of interest, I shall try to show its inadequacy, and to show that the true basis of interest is found in a study of the instincts; that it is a question that belongs to the pedagogy of the instincts.

In criticising Herbart's notion of interest, Dewey has this to say: "According to this psychological view, interest is not psychical activity, but is a product of the actions and reactions of ideas. Interest is simply one case of feeling, and all the feeling depends upon the mechanism of ideas. In his desire to get rid of the 'faculty' psychology, Herbart denies any original or primitive character to either impulse or feel-

ing." Thus, we see interest holds a subordinate place. Ideas contend for place above the threshold of consciousness. In this contention some fuse. This fusion is apperception, and gives a kind of pleasurable feeling which Herbart calls interest. To quote again from Dewey: "Interest is attached in no sense to the content of the ideas, aiming at appreciating their intrinsic values, but depends wholly on the formal interaction of the ideas." By putting the emphasis on ideas, it is but a step to transferring the emphasis to the child's environment, or better, perhaps, to the subject matter taught him, which is the source of the ideas, so that we can readily see how, by following this system, teachers have lost sight of the child. I shall conclude this by quoting again from Dewey: "The weakness, both of the Herbartian psychology and pedagogy, seems to me to lie just here—in giving the idea a sort of external existence, a ready-made character, an existence and a content not dependent upon previous individual activity. It abstracts the idea from impulses and the activity that results from them." * * * This doctrine fails "to recognize the genesis of ideas, the conceived ends out of concrete, spontaneous action." "Herbartianism seems to me especially a schoolmaster's psychology, not the psychology of a child."

Interest has been defined as the affective state, resulting from the reaction of the organism to the object from which the stimulation comes. In the case of man this, of course, may refer to an object of sense or of thought.

Some psychologists maintain that a functioning instinct has three aspects, the perceptual, the affective, and the conative. Later on I shall discuss these in detail, under the heading of instinct. The perceptual gives rise to the second, the affective; this in turn gives rise to the third and culminating phase, the conative, which marks the apex of the inciting element. The second phase, the affective, is at the basis of, and gives rise to, the native or natural interests. Interest has its beginning in the functioning of the instincts. This affective state, which has its beginning in the functioning of the instincts, passes over into the affective state called interest. This exists in all degrees of intensity and permanency from the interest of the moment to those interests that become permanent stratifications of the mind. It is a certain relationship established between the self and the inciting object.

It should be emphasized that interest is not in the object for its own sake. It is only as it stimulates to activity some innate tendency that it has interest for the individual. The affective aspect or feeling aroused is the interest. This is of great pedagogical importance for the teacher and makes it imperative that she follow the innate tendencies in selecting the mental pabulum for her pupils.

The selecting of subject matter in an arbitrary manner—that is, without reference to the child's native interests—is a common error of our schools. This is perhaps more prevalent in our high schools than it is in our common schools. One of the reasons for this is that the high schools are domi-

nated to a great extent by the colleges which compel the high schools to make their courses of study fit the college entrance requirements. Much revision of courses of study is needed not only in the high school, but in the elementary school as well.

Much of the subject matter is thus selected without reference to the child's native interests, and the teacher is enjoined to make it interesting. As a result, there is divided attention on the part of the pupil—a division of his mental activities. In the words of Dewey: "Externally, we have mechanical habits with no psychical end or value. Internally, we have random energy or mind-wandering, a sequence of ideas with no end at all, because not brought to a focus in action."

By forcing the child to give attention to those things corresponding to which he has no natural tendencies, we force him to acquire the habit of divided attention. This condition of divided attention is perhaps more prevalent than we are aware. In a mechanical way the pupil tries to learn the lesson in such a way as to allow his mental imagery to be free to occupy itself with matters more to its liking. The best part of the pupil's mental powers is usually thus engaged in matters in which he is really interested while he is forcing himself, in a superficial way, to give attention to the matter in hand. Total lack of interest, in the normal child, is unthinkable. He is interested in something and this something is closely related to his instinctive tendencies. The thing is interesting to the child because it stimulates to action, or causes to function his innate tendencies that are nascent at that time. Dewey sums up briefly this whole matter as follows: "An interest is primarily a form of self-expressive activity—that is, of growth through acting upon nascent tendencies."

In looking through psychological literature, one finds much disagreement as to what instinct is. For the purposes of this thesis, the term will be given its widest significance, such as is given it by James. He writes as follows in defining the instincts: "They are the functional correlatives of structure. The nervous system is, to a great extent, a preorganized bundle of such reactions. Every instinct is an impulse. Whether we call such impulses as blushing, sneezing, coughing, smelling, or dodging, or keeping time to music, instincts or not, is a mere question of terminology. The process is the same throughout."

Boodin defines instinct as "a response to stimulus determined by congenital structure."

McDougall, in his Social Psychology, writes as follows: "Instinctive action implies some enduring nervous basis whose organization is inherited, an innate or inherited psychophysical disposition, which, anatomically regarded, probably has the form of a compound system of sensori-motor arcs."

Marshall, in his Instinct and Intelligence, defines instinct as follows: "All instincts appear as modes of that simplest

of all forms of activity, the reaction of a living cell to the stimulus received from its environment."

Lloyd Morgan is disposed to take this broader view of instinct. He says: "It appears to me, then, that for purposes of psychological interpretation, in so far as this is concerned with the early stages of the genesis of experience, we should so far broaden the connotation of the term 'instinct' as to include all those primary and inherited modes of behavior, including reflex acts, which contribute to what I have termed the primary tissue of experience." In another place he speaks of the importance of what he calls "instinctive behavior." He says: "Instinctive behavior is serviceable on the first occasion. Serviceable for survival. In further detail, serviceable for avoiding danger by shrinking, quiescence, or flight; serviceable for warding off the attacks of enemies; serviceable for obtaining food, capturing prey, and so forth; serviceable for winning and securing a mate, for protecting and rearing offspring; in social animals, serviceable for co-operating with others and so behaving that not only the individual but the social group shall survive."

The above quoted definitions of instinct are, in a general way, in harmony with the notion of the term as it is treated in this thesis. Instincts are so soon modified by experience that they soon lose their so-called pure nature. Only a few of the instincts, such as sucking, crawling, wailing, winking, that function shortly after birth, are determined purely by innate dispositions. Most of the human instincts ripen at a later date when they are modified by a considerable degree of intelligence and imitation, but this does not detract in the least from their instinctive nature. On account of these modifications, it is reasonable to suppose that their manifestations differ markedly from those of primitive man. Let us note, however, that the difference is not in the initial aspect of the instinct, but in the modifications due to environment. Let the child be reared in a savage environment, then the instinct would become recrudescent in its functioning.

Many instincts at first are rather general in their nature, but become specialized to react to certain objects and to neglect others. There is a tendency at first to recoil or rather start at any loud noise, but experience teaches that certain noises are not accompanied by any harm, so that these noises cease to arouse the instinct of fear; on the other hand, certain noises are found to be usually accompanied by danger, and so the instinct of fear becomes specialized in that particular direction. This will no doubt explain the so-called acquisition of instincts during the life of the individual. It is more reasonable to suppose that it is the specializing of some general instinct in a particular direction. Experience enters into this process of specialization.

There are many instincts of the so-called deferred type which appear at various periods after birth. The sex instinct may be cited as an example. These instincts, though deferred in their functioning, are not acquired but are just as innate

as are the instincts that function at birth or very soon after, before experience is able to play much of a role. In fact, most of our instincts are of the "deferred" type. They must wait on structural development. When the structural conditions are ripe, if the proper stimuli present themselves, then the innate tendency functions as an instinct. This instinct may be of the transitory type, whose functioning is necessary to the functioning of higher but related instincts. Certain objectionable elements may be eliminated by karthasis and certain other elements sublimated to higher forms and stratifications of psychic life. Take, for example, the fighting instinct. If it is arrested on a lower plane of development, we have the brute. If crushed out, we have the coward. If properly purgated and sublimated, we have the man of grit, determination and courage.

Experience has its beginning in the innate tendencies or instincts. The functioning of the instincts puts the mind in the attitude of assimilation. This act of mental assimilation is at first very simple, but becomes more complex as the instincts become more complex in their functioning. It seems a contradiction of terms to say that this assimilative process is at first attended with little, if any, discrimination. This assimilation attending the early functioning of the instincts, is so void of discrimination that it might be called mental growth by accretion. This, however, is from the standpoint of the conscious process. In the broad sense of the term, discrimination, from the very first, is active. It is itself instinctive in its nature. Later a great part of this discrimination is handed over to habit and intelligence.

Coercion in our schools, when carried too far, is one of the causes of arrested development, since it often indiscriminately thwarts or impedes the normal functioning of the innate tendencies. They thus atrophy or are arrested on a lower plane of development.

Not only is the question of what to teach of prime importance, but also is the question of thoroughness—especially the danger of thoroughness—equally important. Like all good things, it can easily be abused. The degree of thoroughness will depend altogether on the stage of development at which the child is arrived; and, too, it will depend on the nature of the work being presented at that particular time. When thoroughness is carried to the point where the child begins to mark time, a halt should be called. The evil of thoroughness leads to another evil—the evil of compelling pupils to repeat grades. Too much thoroughness in the earlier years of the child's life leads to early specialization, making impossible the laying of a broad foundation and the establishing of a many-sided interest. Such procedure does not allow his varied range of tendencies to function properly, and thus arrested development of the neglected tendencies is produced, as well as an arrested development of the overspecialized tendencies. By narrowing down to a few things, the child's mental processes become fixed at the expense of spontaneous

variation. May not much of the narrowness and bigotry in adult life be traced back to the evils that cause arrested development in the child?

McDougall maintains that every instinctive act has three aspects; the cognitive, the affective, and the conative, and adds: "Every instance of instinctive behavior involves a knowing of some thing or object, a feeling in regard to it, and a striving towards or away from that object." The first aspect of the instinctive process, the cognitive or perceptual, refers, of course, to that part of the process which has to do with the stimulating of the nerve centers; but with reference to the second and third it is perhaps impossible to say where the feelings leave off and will begins. For convenience of treatment, it may be permissible to consider the instinctive process as having the three aspects contended for by McDougall.

The energy generated in the nerve centers as the culmination of the cognitive or perceptual aspect of the instinctive process—call this energy psychic, neural, or whatever you please—spreads to nearly all parts of the body, especially to the visceral organs, the heart, lungs, blood vessels, glands, etc. The feelings or emotions thus generated we may, for convenience, call the affective aspect of the instinctive process. Some psychologists call these feelings—at least some of them—instinctive feelings, or even instincts. I shall discuss the so-called instinctive feelings later on. Of the third aspect of the instinctive process, McDougall writes as follows: "Its constitution determines the distribution of impulses to the muscles of the skeletel system by which the instinctive action is effected, and its nervous activities are the correlates of the conative element of the psychical process of the felt impulse to action."

McDougall maintains that the cognitive and conative aspects of the instinctive act may be very materially modified during the life of the individual, while the affective remains practically unchanged. He says: "It persists throughout life as the essential unchanging nucleus of the disposition."

In taking up again a further consideration of the feelings that accompany the functioning of the instincts, and especially certain ones of the most fundamental of the instincts, let us note a few of such pairs. There is the instinct of flight accompanied by the emotion of fear. There is the instinct of pugnacity accompanied by the emotion of anger. There is the instinct of curiosity accompanied by the emotion of wonder. And so we might go on and name a long list of instincts with their instinctive emotions or affective aspects. It should be noted in this connection that the most fundamental of the instincts, those that have to do with the preservation of the individual and the continuation of the species, as for example, the instincts of flight, pugnacity, parental, and sex, are accompanied by the strongest instinctive emotions or affective aspects. It seems that the function of the affective aspect is to reinforce the conative aspect of the instinctive

act, to make more certain its execution. It seems reasonable to suppose that the affective aspect of the instincts evolved in the history of the race through variation and natural selection because it gave to its possessor greater chances for survival. Fear, added to length of legs, increases the possibility of successful flight from the enemy; anger, added to sharpness of claws and teeth, increases the chances of success, and therefore survival, in a bodily encounter with the enemy. Therefore, it seems certain that the function of the emotional element in the instinctive process or act is to make more certain the successful carrying out of the instinctive act.

In the functioning of certain instincts, especially those on which prohibitions are placed by laws of modern social life, this affective or emotional element becomes a dangerous by-product through inhibitions and repressions. The pugnacious or fighting instinct, and the instinct to kill, may be cited as examples. Through the accumulation, or, perhaps better, the damming up of these unused psychic forces the soul is thrown out of balance. Much unhappiness is thus brought into the life of the individual and also into the lives of those about him. In a certain sense these instincts may be considered vestigial, or at least becoming so. They were once important in the preservation of the life of their possessor, but are gradually losing this importance. They were useful so recently in race history that they still have strong tendencies to function, especially the fighting instinct. They cannot, nor should they, be got rid of. They must be transformed to higher planes of functioning through the treatment of katharsis and sublimation. The chief means for this are literature and games of contest, as well as hunting and fishing, the school having to do chiefly with the first two means.

The question of the katharsis of the instinctive emotions is one of far-reaching importance, but one on which, so far as I know, very little has been written. It is through literature that its best and most effective work can be done. Through the stimulation of literature the individual is able to do those things in his imagination which are forbidden him in real life. In this way the dangerous tendencies function in a harmless manner and psychic equanimity is restored. It seems to me that in a thorough-going treatment of the pedagogy of the instincts, the question of the katharsis of the instinctive emotions should be given a prominent place.

The aim of education should be to develop and train the child's best tendencies, so that they will pass over into habit. The dangerous tendencies should be rendered harmless through purgation and sublimated to higher planes of functioning. Thus do we build character. The roots of character should strike down deep into the great fundamental instints of man. This means that the foundations for right character building must be laid in the early years of the child's life. When tendencies to react to objects of one's environment are inhibited, there is a disposition to fly from the real to the ideal —for the self to attempt to create an ideal situation whose

environment will allow these tendencies to function normally, or rather according to their bent. The very soul of poetry and of fiction is the materialization in literary forms, both oral and written, of this impulse to fly from the real to the ideal. In the evolution of the human mind it seems reasonable to suppose that the impulse to escape the real and to find satisfaction elsewhere was an important factor in the evolution of the imagination. It seems to me that this suggests why literature is such an important factor in working a katharsis or purgation of these instinctive emotions. The feelings thus generated form the primary tissue of those feelings that make up what we call an interest in literature. This process of katharsis of the instinctive emotions is a sort of psychic effervescence relieving the stress and strain of these pent up feelings.

Play is the other realm of the imagination in which the soul of the growing child can freely exercise its race tendencies. This is the child's sacred privilege and adults should not interfere. The subject of play is introduced at this point because I believe it, like literature, can be shown to have an educational value, though perhaps not in as great a degree as literature, in working a katharsis of emotions of certain instincts that have a tendency to function in play activities. Spontaneity is the most important element in the play activity. If this element is lacking it cannot rightfully be called play. If this theory is true that through the play activity a katharsis can be worked of certain instinctive feelings that have a tendency to function in play, in such cases at least we must be sure of the element of spontaneity. This is perhaps sufficient at this point to show that the question of katharsis is inseparably bound up with the question of the genetic functioning of the instincts as native interests.

A study of the structure and functions of the nervous system throws much light on the fundamental problems of education. It helps very materially in understanding the innate tendencies or instincts to make at least a brief survey of some of the chief points that have been worked out in recent years concerning the nervous system, that have a bearing on education. I shall give briefly a few of the facts concerning the nervous system that are of special importance for the genetic functioning of the innate tendencies or instincts.

The work of education is not to increase the number of nerve cells in the body, for it has been pretty well established by neurologists that the number is fixed sometime before birth; but rather is it the work of education to develop those already created. Each nerve cell has its period of immaturity; a period of rapid growth or nascency; and lastly a period of maturity when little change can be made in it. It is injurious to try to force the cell to function before its nascent period or during its period of immaturity. This is likely to cause arrested development. It is dangerous to overstimulate the cell during its nascent period; this may also cause arrested development; but it is very essential that the

nerve centers be properly stimulated during their nascent periods. If the plastic nascent period is allowed to pass without the proper functioning of the center, then education has forever lost its opportunity. After the third period, the period of maturity of the nerve cell, has been reached, little change can be made in it.

It has been pretty well established that during the first few years of the child's life nerve cells develop much more rapidly than they do later; this no doubt accounts for the child's very rapid mental development during those early years. He has learned a little about such a wide range of objects, we wonder how he has come so far in so short a time. Mental development is the correlate of the development and functioning of nerve cells. This takes place normally if properly stimulated during the nascent period of growth.

It is generally held by neurologists that the order of development of the nerve centers in the human nervous system corresponds in the main with the order of the evolution of the nervous system in animal life below man.

The period of structural development of the nervous system of animals below man is comparatively short; hence, the instincts appear in close succession upon each other, and many apparently together. Most of them are functioning fully shortly after birth. Not so with man. The period of structural development of the nervous system of the child and adolescent reaches over a span of more than twenty years. Parallel with this structural development of the nervous system is the functioning of the instincts in a certain order. In the evolution of man, spontaneous variation and natural selection have built up an heirarchy of instincts. The order of the functioning of the instincts, as well as their number, is innate.

Psychic growth depends upon this inner structural equipment, but this growth cannot take place without proper stimuli furnished by the environment. Not only in our lowest activities, but also in our highest, our organic tendencies respond in an instinctive manner to the "call of the environment." Unless structural conditions are ripe, the "call of environment" will fall, as it were, upon deaf ears. The child, in its mental development, follows the order of its structural development. These structural tendencies have been evolved and laid down as engrams in the nervous system during long years of race history. The individual is wound up, as it were, and is set off by proper stimuli. Abrupt changes take place in the stages of consciousness to correspond to the abrupt changes that take place in the development of structural conditions. This, no doubt, is the condition during the transition periods so well known in the growing child. These are periods of rapid readjustment, not only in the nervous system but also in the organs and glands of the body as well.

As the child advances in years and as the nervous system becomes more highly organized, instincts more and more complex in nature function. The social instincts are an example, being among the last to be nascent. The successive stages of

consciousness of the evolving psyche are the correlates of the inner structural development. Each stage has its own characteristic instincts. Natural selection for untold ages has been acting upon spontaneous variation and as a result has built up in the nervous system the structural tendencies which, acted upon by proper stimuli from the environment, cause the instinctive correlates of the structural tendencies to function, and are thus translated into physic forces. These primal psychic forces form the very foundation of our psychic life, and all later psychic life is built upon this instinctive foundation as a superstructure. On the fundamental importance of instinctive life, Guillet writes as follows: "While there is no such thing as an innate idea, still the mind of the child is not * * * a tabula rasa." It is creative—"a bundle of instinctive tendencies to growth." "This is the fundamental part of man and conditions the more conscious part of man." "Instinct, not intelligence, still leads evolution." "Intelligence is continually baffled and superseded, but instinct displays itself with the old vigor in ever new forms."

According to Hughlings Jackson, the nervous system may be regarded as made up of three levels, the first or lower has its centers chiefly in the spinal cord; the second or middle has its centers chiefly in the sensori-motor areas of the brain, and the third or higher consists of the higher association centers of the brain. The Jacksonian three-level theory is highly suggestive, but may be considered arbitrary. Instead of three levels there are no doubt many levels, so that it is perhaps better to refer to it as the level theory. In the ascending levels we find pretty much the same order as is found in the evolution of the nervous system in the lower form of life up to man. The mental life evolving from the functioning of the lowest levels is the most stable, and decreases in stability as the scale is ascended, so that the parts of the brain to develop latest are the least stable. This means that to overtax these higher centers is very dangerous. This should ever be borne in mind by the teacher, and she should strive at all times so to train the pupil that as much as possible will be turned over to the lower levels, thus making the work automatic and relieving the higher conscious centers. This applies to much of the training in language, spelling, writing, etc. The child must be so trained that he will do the things correctly with the least degree of consciousness. This is truly a conservation of mental energy, since it leaves the conscious forces free to do those things which cannot be handed over to the lower levels, and thus makes possible a greater degree of higher mental growth.

In this necessary order of these structural functionings and the resulting instinctive tendencies, there are many tendencies and resulting interests that seem to the adult mind as useless to the child, and much effort has been made by those not understanding child nature to suppress these tendencies and to stamp out these seemingly dangerous interests, which, if successful, has resulted in injury to the child; because if the

theory of the levels is correct, then the tendency for certain structures to function has been inhibited, which in their functioning made possible higher neural co-ordinations. For the higher co-ordinations of neural elements can take place, according to the laws of neural development, only when the lower co-ordinations have first taken place. It is nature's plan to pass through developmental stages, not only physically but also mentally, and it is our business as pedagogs to study this order and to follow it. We should cast to the void our adult standards in dealing with the growing child.

In the life of every organism there are ever two forces at work, the inner tendency to vary and the necessity of adjustment to environment. These are referred to as spontaneous variation and natural selection, and are the determining principles in evolution. This tendency to vary belongs little to the fundamental organs, either physical or mental, but chiefly to the accessory organs—those evolved late in the history of the race. From this we have a right to infer that, in the innate tendencies whose structural correlates are in the higher levels, there is a greater tendency to vary and a greater degree of plasticity. And, indeed, we find this to be true. The instincts that function later in the child are so soon modified by experience that many psychologists deny that they are instincts.

One of the most sacred heritages of the child is this tendency to variation. This is what places the stamp of individuality upon him. This is especially what makes his life a contribution to the race. But this is just what our schools with their lock-step methods, and curricula based on adult standards, and mechanized systems, are stamping out. One of the most important lessons that our schools have to learn is discrimination—to study the individual needs of the pupil. It is the teacher's sacred duty to recognize budding genius and to foster it most carefully. The hope of the future is in the child and the adolescent. The school must assume a large share of the responsibility. The first lesson to be learned is to realize the gravity and importance of this sacred trust.

The salvation of the child lies in remaining plastic. The period of childhood, as well as of adolescence, should be prolonged. Specialization is the bane of childhood, as well as early adolescence. We should learn the lesson from biology that over-specialization is fatal, if pushed during the period when the individual should remain plastic. This long period of plasticity of the child and adolescent gives spontaneous variation its opportunity. It also gives opportunity for the innumerable innate tendencies to function in their natural order and to be laid down as permanent stratifications in the life of the individual. In this way the individual becomes the possessor of the best that the past has to offer the present. So to educate the child is to allow him to drink at the fountain of eternal youth.

If, in the education of the child, we fail to stimulate to activity these innate tendencies, in their dynamic or genetic

order, we may in the failure to call forth a certain tendency, make impossible the functioning of succeeding tendencies because of their being conditioned one upon the other. As an example, the instinct of heroism may depend to a great extent for its proper functioning on the previous proper functioning of the fighting instinct. The love of home may depend upon the proper functioning and proper katharsis of the migratory instinct. The love for, and proper appreciation of, literature may, in part at least, in its higher elements of rhythm and tone quality, depend on the previous proper functioning of the rhythmic instinct in its earlier and cruder forms. The higher in the scale the instinct is, the more complex it is, and the greater are its possibilities of variation and the greater the survival value for the individual. This makes possible the arousing and establishing of a many-sided interest, giving to its possessor a richer life. To say that we get just as much out of life as we bring to it, is another way of saying that we get just as much out of life as we have responding tendencies. For the one whose tendencies do not respond to the beauties of nature, the sky is simply the space above him, but for the poet it is "full of light and of deity." For Peter Bell, "the primrose by the river's brim, a yellow primrose was to him, and it was nothing more." For the farmer, it may be, the dandelion is only a noxious weed to be got rid of, but for the poet it is the "dear common flower that growest beside the way."

Following is a summary of part one:

1. The way of approach to the child is to be found through a study of his innate tendencies functioning as native interests.
2. The affective or emotional aspect that attends the functioning of an instinctive or innate tendency is the basis of the interest in the object, thus stimulating this reaction.
3. To attempt to force the child to learn that for which he has no corresponding tendencies is to force him into a condition of divided attention, let the teacher try as she will to make the thing interesting.
4. This thesis regards instincts as "functional correlatives of structure" or "responses to stimuli determined by congenital structure." The first is from James and the second from Boodin.
5. Instincts that appear later on in the child's development are either of the deferred type or are specialized forms of some general tendency.
6. Too much thoroughness, as well as over-specialization, are both to be avoided in the education of the child and adolescent. Such a procedure causes arrested development; it tends to destroy the plasticity of childhood and adolescence and thus to shorten their period of growth; thus education defeats its own purpose in this failure to lay a broad foundation and to establish a many-sided interest.

7. There are instinctive feelings that, through inhibitions and repressions, accumulate as a sort of dangerous by-product which must be eliminated by purgation or katharsis. Also vestigial tendencies, as well as tendencies exhibited in play, may be allowed to function, in a harmless way, through literature and play, both of which are largely in the realm of the imagination.

8. Natural selection, acting upon spontaneous variation for untold ages in the race, has built up in the nervous system the structural tendencies which, acted upon by stimuli from the environment, cause the instinctive correlatives of these structural tendencies to function and are thus transformed into psychic forces. These form the "primary tissue" of mental life.

9. The structural tendencies of the lower levels give rise to innate tendencies that are more stable, but less variable, than those of the higher levels. Those of the lower levels are the fundamental, and those of the higher the accessory. The latter are more plastic but are less stable than those of the lower levels.

10. The degree of education, or stage of culture, at whatever period of life, is measured by the number and variety of permanent tendencies that have been established in the individual through his reactions to his environment.

PART II.

Part two will be devoted to a consideration of the principal instincts or innate tendencies, taken up and considered separately, though their interrelations and interactions upon one another will be constantly noted.

Instinct of Flight (fear).—In the evolution of the race the instinct of flight, with its accompanying emotion of fear, has had great survival value. In the lower animals the instinct of flight is accompanied by the impulse to run to cover and to seek safety in concealment. This impulse appears early in the child; indeed, as soon as he begins to run about. The child of four or five may be frightened by the product of his own fancies, though he knows full well that the object of his fright is a pet or even a play fellow or a member of his own family. The unfamiliar is ever a source of fear. The imagination often runs riot in magnifying those objects or properties of objects which the mind does not yet comprehend. Fear, if intense, takes complete control of the self to the exclusion of all other mental processes. A proper amount of fear is a wholesome corrective, making for moral good.

Fear is an element in all religious tendencies. It is an element in the feelings of awe and reverence, which are in reality higher forms of fear. The deep and gloomy forest, the dark night, the thunder and lightning of the heavens—all these inspired in primitive man feelings of awe and reverence which were at the very basis of the evolution of his religious

nature. These over-awing and fear-producing phenomena have left their indelible stamp on the soul of man. Through the psychic rudiments of fear, which tend to function in the life of the child, we find our way of approach in teaching certain phases of literature and nature study. Especially through literature these psychic rudiments of fear are stimulated to function and in this manner a katharsis is brought about, thus raising these tendencies to higher planes of functioning; or, perhaps, these psychic rudiments of fear, through this manner of functioning, fade out, according to Aristotle, and give place to higher and normally succeeding forms of these tendencies. If these crass tendencies are arrested on a low plane of development, we have the coward, the vacillating individual, or the neurotic whose life is ever threatened by air-drawn daggers of the mind.

Here, as everywhere, let us emphasize the principle that these psychic rudiments, though they may be mere echoes of tendencies, important in a remote past and now apparently of little use, are not to be stamped out, but are to be stimulated to a certain degree of activity, allowed to fade out or through this process of stimulation are raised to high planes of functioning. This can be done through literature, nature study, and play.

To deal properly with rudimentary psychic tendencies, of which fear is one of the most important, is one of the most difficult problems of pedagogy. These tendencies, if not properly dealt with, tend to become morbid, just as rudimentary organs in the human body tend to become diseased.

Fear is strongest in the child at about three or four years of age. This is due in part, perhaps, to the fact that his imagination is very active and his judgment immature. The child experiences many fears in the dark, due, no doubt, to the fact that his senses cannot contradict what his imagination conjures up. This does not argue against the instinctive nature of fear. Fear easily tends to become morbid in children. They should be guarded against sudden frights. While fear is one of nature's correctives and has much survival value, when functioning normally, yet it should never be used as a moral corrective by parents and teachers. Children should never be frightened into being good. Because of its effectiveness in getting immediate results, it has been used very much in the past, to the hurt of the child.

If we should eliminate all fear from the human soul, much of the best in life would be lost. The child should be taught to fear aright. Too much fear leads to timidity and cowardice. A wholesome amount of fear tends to make the child cautious and prudent.

In varying degrees, fear is a universal instinct in the lower animals as well as in man. One knows how easily a horse is frightened at a sudden noise or strange object. We have all watched the actions of the timorous mouse. Young chickens, without previous experience with such a danger, crouch or run to cover on the appearance of a hawk or other bird of prey.

Miss Holbrook in her study, "Fear in Childhood" (Barnes' Studies in Education, Vol. II., p. 18), found that "fear in early childhood is most often a vague haunting terror of the dark, of awful shapes, of 'something I know not what'." "Strangely enough, fear of the supernatural appears only half as often as fear of the real world of thunder and shadow and dark, though without doubt the element of the superknown is a powerful one in a child's notion of the phenomena we regard as purely natural and law-abiding." She found that death and hell and ghosts figured very slightly in the child's fears. Dark was feared most, monsters came next in order. She found in her returns that there is a certain fascination in fear. Also that fear has a sort of paralyzing effect. She concludes as follows: "Taken altogether, the conception of childish fear which evolves from this study is that of an unreasoning state of helplessness, induced through the undifferentiated senses by a consciousness of the Great Unknown, generally associated with insufficient and fragmentary knowledge of the objective world. To say this is to say fear is ignorance, and the appropriate remedy suggests itself readily. Turn on the searchlight of exact information and objective fact, and exorcise the demon with the modern spirit of natural science and manual training."

Instinct of Pugnacity (anger).—When the functioning of any impulse is inhibited, an innate tendency or instinct is aroused called pugnacity, attended by the affective aspect called anger. Owing to its survival value in the history of the race, it is one of the very strongest of the impulses. And because it is conditioned by the functioning of other instincts, it is very common and very frequent in its appearance. Especially is this true in the life of the child, but as his life grows richer in experience he learns to long-circuit these impulses. As these impulses become sublimated they are transformed into energy, which helps very materially in the functioning of other tendencies. The instinct of pugnacity is not to be stamped out, else we have the coward; but is to be sublimated into higher forms. In this way we develop the child in such a way as to transform him into an adult of grit, and determination, and courage—the man of character.

In this process of inhibition and repression, many dangerous by-products are formed which become a canker in the life of the individual. This must be eliminated through expurgation or katharsis. This may be done chiefly through literature, but also through contests and games.

Fear tends to inhibit the other impulses, while it is through the inhibition of the other impulses that anger has its rise, and when sublimated tends to reinforce them. It is the very same force aroused which appears in the child as anger, which, later, when obstacles are met, helps to overcome them.

In dealing with the instinct of pugnacity, we should not seek how best to stamp it out, for this would convert the individual into a craven wretch, but we should seek rather to transform this mighty psychic force into forms of energy that will make for force of character.

The question as to whether boys should fight is one for the boys to settle, rather than parents or schools. Usually such matters will adjust themselves. The best corrective for the boy who has this tendency in superabundance is to have justice meted out at the hands of some other boy. It is a ten-

dency that needs no encouragement, unless it be in the boy who is abnormally pacific and is thereby disposed to let other boys impose on him. He should, by all means, be taught to defend himself.

Pugnacious tendencies should be transformed to a great degree into tendencies of friendly rivalry. Properly transformed, these pugnacious tendencies can be made to do much of the world's work.

Pugnacity, on the whole, is not growing weaker, but is taking on different forms. Its dynamic center is passing from the individual to the group. It appears wherever the impulse to act is thwarted, in whatever channel, whether of the individual or the group.

Though the instinct of pugnacity has led to many useless and destructive wars between tribes and nations, and also between smaller groups, and even individuals, yet it has been a most important factor in the evolution of men and nations to higher planes of civic and social development.

Out of these contests there have come higher moral and civic standards. In conjunction with the instinct of pugnacity there were other innate tendencies at work, with their general upward tendency. A thwarting of these tendencies would bring on the contest.

Jealousy is a form of anger in which the idea of ownership is involved in connection with the property instinct or the sex instinct. In the evolution of the race through contests brought on by jealousy, men were disciplined to a higher and more effective control. As in the race, so in the child; this tendency is not to be stamped out, but is to be controlled and raised to a higher mode of functioning. It lends strength to self-assertion and hence to self-respect. When it is extended to larger and larger groups, it tends to pass over into altruism.

The question for pedagogy is how to turn anger and its allied forms of jealousy, revenge, hatred, etc., along higher channels of expression, because the negative method of repression is in most cases harmful. It is a question of drafting them off along other channels and utilizing them as educative forces.

Gross, in his Play of Animals, has shown that this tendency to exhibit the instinct of pugnacity in their play activities is very common among the lower animals, as among dogs, cats, bears, raccoons, etc. The fighting instinct is so common in the lower animals as to be familiar to everyone. Ordahl, in his study of rivalry among the lower animals, cites many instances. Dr. Hall, in his study of anger, notes that it is exhibited in the child in such forms as screaming, stiffening, holding the breath, scratching themselves, kicking, sobbing, etc. He notes that age brings many changes in the manifestations of anger, largely through repressions and control. Impudence may become sarcasm; instead of fighting with the fists, one fights with the tongue. "While peevishness and irritability are less, remorse, reason, reflection, toleration of offences become dominant." Dr. Smith, in her study of "Obstinacy and Obedience" (Ped. Sem., March, 1905), found that anger often accompanies obstinacy. She found that this

condition is often caused by malnutrition and hence must have physical treatment. She found, too, that fatigue is a frequent cause. In the treatment of the child, she concludes that there is danger of too many rules and restrictions and that more freedom is often the best remedy. It is best to ignore the child at such times, for this tends "to diminish the mental and physical tension which are characteristic of obstinacy."

Burk has shown that the fighting instinct or instinct of pugnacity is manifested in the tendency to tease and bully. These tendencies, he thinks, are due to "broken neurological fragments, which are parts of old chains of activity involved in the pursuit, combat, capture, torture, and killing of men and enemies."

Self-regarding Instinct—Positive and Negative.—The self-regarding instinct is at root a social instinct. The positive aspect is seen to a great degree in the tendencies that function as demands for recognition and sympathy. The negative aspect is seen in the tendencies of the individual, in part to adjust himself to the demands of others, and in part is due to a sense of inferiority, real or imagined. The negative aspect of the self-regarding instinct manifests itself in such forms as bashfulness, modesty, reverence, and docility.

This instinct begins to function very early in the child's life—even before it is two years old. As self-consciousness develops, it appears in boys in the form of boasting and swaggering, taking dares, doing stunts, etc. In girls, it appears in the form of boasting and vanity.

While this instinct seems to exhibit much that is egoistic, it is in the main a social instinct. Its proper stimulation to activity depends on the presence of spectators. There must be a sense of superiority, in some respect, on the part of the individual, over the spectator, or at least an attempt to so impress the spectator. This on the positive side. On the negative side the attitude is one of inferiority in the forms of modesty, shame, etc. It is slightly akin to fear, but is a higher form.

In response to the well known challenge, "You dare not do it," many a foolhardy act has been committed by boys, and very often by girls as well. This is an abnormal condition, and by proper sublimation and transformation can be made over into true courage. The right kind of literature can do much here. The boy and girl must grow into a knowledge of what true courage is.

The failure to direct this tendency in right channels is a failure in moral training. If not properly directed, these tendencies often become criminal.

Teachers and parents too often make the mistake in laying down rules in such a way as to antagonize the child and to call forth this tendency in its abnormal and perverted aspects. As few rules as possible, in both school and home.

The functioning of the self-regarding instinct is affected by clothing and self adornment, making the instinct either positive or negative. Clothes make the child experience a feeling of superiority or inferiority toward his fellows. One's personality seems to be extended to his clothing and personal adornments.

Girls are more boastful of their personal attractions—their native endowments as well as their dress. Boys are more concerned about their ability to excel in physical endowments,—in becoming leaders. These conditions, in both boys and girls, may become abnormal and be arrested on a low plane of development. These tendencies usually do not need much encouragement.

In these bragging and boastful attitudes, the child is apt to play the false role more or less. These tendencies must be directed along right channels or these undesirable false attitudes will pass over into habit. Literature can do much to rectify these errors. Athletics and manual training should do much, for the reason that the individual is measured in the presence of his fellows as to his abilities and accomplishments; and he will thus grow into a correct knowledge of his true powers.

Abnormal self-consciousness is an undesirable form of this negative self regarding instinct. One of the chief evils of this abnormal condition is that it tends to inhibit freedom of movement in speech and other bodily movements, as well as in normal continuity of thought. It is an enemy to spontaneity. It is the opposite extreme of over-boldness. Both extremes are to be avoided.

Blame and ridicule are, to sensitive natures, fearful things. Praise used judiciously is a mighty force in the hands of a wise teacher.

It is a question whether over-timid and nervous children should be forced to appear on public occasions to recite pieces or take part in plays. The instinct of curiosity is able, usually, to counteract the negative self-feeling of bashfulness and timidity.

In young children this instinct of shyness and bashfulness manifests itself in crying, hiding, and covering the face. A little later the child avoids strangers by running away. During adolescence, especially during the early period, a tendency of shyness and bashfulness shows itself in the impulse for the individual to avoid members of the opposite sex, especially those about the same age. This tendency is stronger in boys than it is in girls.

One of the very strong factors in determining and molding one's conduct is the regard in which one is held by his fellows. This is especially strong when one is in an attitude of negative self-feeling toward his fellows.

During the period of childhood the individual does not show much of a sense of shame, which is a phase of self-abasement.

To attempt to force the functioning of this instinct is apt to cause arrested development in the form of prudishness or moral morbidity. Morals should, at this stage, be taught indirectly through the story; and also by example.

Watching a child often accentuates his condition of self-feeling or self-consciousness. The teacher should acquire the art of knowing what the child is doing, without seeming to

watch him. This refers especially to timid children. One of the gravest errors committed by teachers is that, in their treatment of children they are continually inhibiting their spontaneous activities.

During the period in which the dramatic aspect or instinct of imitation is strong, the child, in his play activities, delights to assume the role of another person, either in name or dress, or in both. This is perfectly normal and wholesome as long as the play instinct is active, but when it is taken into real life it then becomes a false attitude and becomes positively dangerous. As long as it acts in the realm of the play impulse it assists very materially in extending the child's personality and also enlarging it. Spontaneous variation and natural selection are at work. In this way the best tendencies of the child predominate and become permanent elements in his character.

As the individual grows there is a general expansion of his whole nature. New tendencies are constantly coming into function. As a result there is a constant swinging to and fro between the two extremes of the positive self-feelings and the negative self-feelings, due, on the one hand, to this upward and outward push, and on the other to the hesitation and fear of trying the unknown; but through the exercise of these varied tendencies, the self, through its reactions to its environment, chooses out those tendencies that will best adapt it to its environment.

The true object in educating the self-regarding tendencies should be to keep the balance true between them, otherwise we have an abnormal product.

The self-regarding instinct, in both its positive and negative aspects, is seen in many of the lower animals. This in the broader sense of the term as used by McDougall, and not to include self-consciousness. When a large dog meets a small dog, we often see both aspects of this instinct exhibited—the positive in the dignified and seemingly superior behavior of the large dog; the negative in the meek and seemingly submissive behavior of the small dog. Again we see the positive aspect displayed in many animals, especially at mating time. At this time they show off their charms to the best advantage. We see the negative aspect in the behavior of the dog toward his master.

Drs. Hall and Smith made a study of the self-regarding instinct under the heading, "Showing Off and Bashfulness." From their returns they found results as follows: "Love of praise and fear of reproach are both powerful incentives in the childish mind and though an execss of either may prove a dwarfing or preventing influence, they are natural stimuli for growth." They found that consciousness of clothes, especially in girls, developed very early. Girls tend to become vain. Affectations in speech appear early, due largely to imitation of their elders. It was found that there was a noticeable difference between boys and girls in showing off along the lines of motor activities. Boys delight in feats of physical strength and skill. There is more the element of affectation in what the girl does. They found no specific differences between boys and girls in the matter of taking dares. Quite common. Due largely to wrong standards of moral courage. Boys brag most of what they can do; girls of what they possess. Bashfulness more common in girls than in boys. This condition reversed toward adolescence. Blushing more frequent in girls; awkwardness and aphasic manifestations more frequent in boys.

Instinct of Rivalry.—Rivalry has a most important place in education. It is a social leveler. It fosters democratic principles. It compels the individual to play his true role. It makes for honesty. In the form of competition it is diametrically opposed to the principle of special privileges as is seen in commerce and politics, as well as in any other field of human action. If our schools would follow the child's innate tendencies, which properly developed make for the best training for life, they must not neglect the instinctive tendency of rivalry.

Rivalry or emulation tends to supplant pugnacity, both in the individual and in the group. In fact, it may be considered a modified form of pugnacity as it is also a modified form of self-assertion, or the positive self-regarding instinct. With reference to overstimulation, caution should be exercised with the child, but with the juvenile it is different. The individual at this age is capable of much greater effort. Struggle and competition seem to be the very life of the juvenile.

Though rivalry is a social instinct, it acts, to a great extent, in opposition to gregariousness and tends to put a check on the evil tendencies of gregariousness, just as gregariousness, on the other hand, tends to check the evil tendencies of rivalry. Properly counterpoised, they tend to keep the moral balance true.

Ordahl maintains that rivalry should be confined chiefly to the field of action. "Elsewhere," he says, "it should be looked upon with suspicion."

Rivalry in moderation is a wholesome stimulus to efficient work and progress in school, but overdone, it leads to overstimulation and inhibitions that retard normal progress, as has been shown by experiment.

Many educators would substitute self-rivalry for this rivalry with others. In self-rivalry the pupil measures his present efforts with his past efforts.

It would seem that each is complementary to the other, and therefore one cannot be substituted for the other.

Bound up with this question of rivalry is the question of prizes and rewards. There are those who would do away with the system of prizes and rewards, but, without question, they have their place. It will depend on the age of the pupil. They appeal especially to the younger pupils.

With reference to the "genetic sequence in the development" of rivalry, Ordahl has the following to say: "The first phenomenon that can be regarded as rivalry is the struggle for food. The child gradually reacts more definitely to comfort and discomfort stimuli; the emotional expressions which accompany such reactions are indicative of jealousy. Closely following this development is that of contrary suggestion, i. e., the child opposes all suggestion, whether pleasant or unpleasant. Another role following is that in which the sense of self comes out strongly. The child is ambitious for display of his personal qualities. This leads to a general comparison with his fellows, and together with added interests in external objects, develops an increased interest in competition. With

the beginning of adolescence we have incipient the final stage in the development of rivalry, viz., a large tendency to struggle in the whole environment for superiority. This struggle may be of a low or high order of morality, but mere supremacy is not its chief characteristic. In the latter, the struggle is characterized by a desire to down a companion, in the former the individual wishes to demonstrate the superiority of his attributes and qualities as greater or larger than those of any others; it is not mere mastery. And the element of self-emulation is probably present in all striving."

Emulation may be considered a higher form of rivalry. It is the impulse to excel, to lord it over others, or to be a leader.

Rivalry had its origin, no doubt, in the struggle for food and shelter, and in the struggle to obtain or win a mate. This we may observe in the lower animals. It is seen to be most active in the gregarious animals. In the struggle for food, the instinct is chiefly defensive, while in the struggle for a mate it is usually offensive.

A difference between rivalry and pugnacity is that in rivalry the contest usually ends when supremacy is attained, while in pugnacity the object is usually either thoroughly to subdue the opponent or to destroy him. This is true among the lower animals and was no doubt true of primitive man.

The self-regarding instinct, in its self-assertive or positive aspect, passes over into a special form of instinct called rivalry for leadership. The instinct for leadership is clearly displayed among the higher animals. It differs from food and sex rivalry in that its object is for supremacy, apparently for its own sake. This is especially true of gregarious animals of the higher orders.

Ordahl thinks that jealousy is a feeling caused by the inhibition of the instinctive tendency or impulse when one's place of supremacy is invaded. It is evident that it is related to this aspect of the instinct of rivalry. It is closely related to the instinct of pugnacity as expressed in the accompanying emotion of anger. A tendency is interfered with. Jealousy is a form of anger.

During childhood the instinct of rivalry has its basis in the egoistic tendencies, but with the ushering in of adolescence the tendency is not so much one of personal supremacy or aggrandizement as it is to know one's place in his social environment. And, too, with the ushering in of adolescence there appear many new tendencies whose function seems to be to expand and enlarge the soul. Some of these take on the form of reveries and day-dreams. In these the leadership aspect of rivalry plays an important role. In these dreams and reveries the adolescent sees himself victorious in life's contests and himself become a great leader, not by might but because of his superior powers of leadership. Through these tendencies he builds for himself ideals which have much to do in building character, through the activity to which they lead.

Ordahl found, in his study of rivalry, that it is a very common instinct in the lower animals. They display this tendency toward

members of their own kind. At the trough the leader drinks first; when fed, the horse throws out warning gestures, observes Ordahl. He found a very common kind to be that for leadership, especially among domestic and wild animals that are gregarious. He concludes that food and sex are at the basis of this instinct in the lower animals.

With reference to this instinct in the child, he found that in its earlier years badges and visible rewards appealed to it; that during these early years there is danger of over-stimulation, but that the pre-adolescent is capable of greater effort and hence not so much danger from over-stimulation. He urges that the adolescent be given material "dealing with great events and achievements of worthy individuals" to feed the impulse of superiority and the hunger for greatness.

From the data examined, Ordahl concludes that there is a genetic sequence in the development. First is the struggle for food. Closely following is that of contrary suggestion. A little later the sense of self becomes prominent—an ambition to display personal qualities. Then follows a comparison with his fellows, which evolves into a spirit of competition. And finally in the adolescent is a tendency to struggle for mastery in many directions—in the whole environment, not necessarily to down a companion, as was the earlier tendency, but to show himself superior to all others, with a large degree of self-emulation.

Instinct of Imitation.—The innate tendency that has most to do with adapting the child to his environment is the instinct of imitation. It is through this instinct, chiefly, that he gradually may come into the rich heritage of the culture of the past. The imitative act when first performed by the child, especially in its early years, may have little or no mental content, but in the performance of the act, motor imagery is built up and thus the act gets mental content.

The tendency to imitate begins to function very early in life—as early at least as the second six months of the child's life. Its earliest forms are low in the scale of mental reactions. The term reflex could rightly be applied to many of these reactions.

Though the child's reactions to his environment in the mimetic sense are at first largely reflex and spontaneous, they gradually come to have mental content. That is, as he repeats these acts, he comes to know how it feels to act in such a way. The next higher form of imitation to function after the simple reflex form, is the spontaneous form. This is nascent during the latter part of the period of infancy and the early part of the period of childhood, perhaps to about the fourth year. After this it is no longer dominant, but is gradually superseded by higher forms of imitation.

Though these two simpler forms of imitation are supplanted by higher forms, so far as their dominance is concerned, yet they persist through life, especially certain aspects of the reflex forms. The child reflects the moods and subtle influences of his environment more than we suspect. "As is the teacher, so is the school," is a condition that has its basis in this reflex tendency of imitation. In this manner of functioning this tendency continues active throughout life. It is to be reckoned with in the control of the child.

Spontaneous imitation is the chief means through which spontaneous variation functions. In fact, the tendency to spontaneous imitation is a phase of spontaneous variation. Through it the child acquires a vast amount of knowledge, as well as a great variety of tendencies to act. Broad foundations are thus laid for his future mental growth and development.

In the earlier stages of spontaneous imitation, the act of imitating takes place immediately after the occurrence of the act imitated, but as memory develops the intervening time between the act of imitation and the act imitated grows greater and greater till the act of imitation may occur the day following the occurrence of the act imitated, or it may be several days afterwards. Thus, mental images, instead of objects of sense, become the stimuli. In this way imitation evolves into higher forms of functioning.

In spontaneous imitation the child is not conscious of the act as such, but in conjunction with the self-regarding instinct many of his acts of imitation become conscious and voluntary. He studies the imitative act and tries to make it conform to the demands or wishes of others. It begins to function and develops parallel with self-consciousness. For education it is one of the most important tendencies. It is a tendency that must be reckoned with, more or less to puberty. Based on this tendency, one might lay down this principle: "Don't tell the child how to do the thing, but rather show him how to do it." It is on this account that example counts for so much with the child in his moral development. Directions and rules have very little place in the education of the child. Through the development of voluntary imitation, the will is developed and hence character.

In the matter of character building, another aspect of imitation appears in which ideals are imitated. Here, again, imitation acts in close conjunction with the self-regarding instinct. The ideals of childhood are built up in the child through being accepted by him, because they bear the stamp of approval of those in whose good opinion he wishes to stand, and in whom he has confidence.

For his ideals, the child draws very heavily on literature. In fairy tale and myth and tales of adventure, the heroes and heroines have much to do in the matter of ideal making. Characters of history are important. In literature and history the child is prone to accept those characters as ideals that have the stamp of approval of others. His discriminating judgment is not sufficiently developed to set up standards on his own account. Later, in the adolescent period, when the discriminating judgment is better developed, the individual begins to set up standards of his own. And, too, his interest begins now to center more and more in persons older than himself—he is interested now in adults, while formerly, in the juvenile period, his interest was more in those of his own age.

The instinct of imitation enters largely into the learning process of the pupil. This instinct, in conjunction with the

innate tendencies to construct and express, has much to do with learning to write and draw. In conjunction with the tendency to expression, it enters very largely into the child's learning his native tongue, as well as the learning of other languages.

In order to teach fluency of speech and also ease in written composition, the child should hear good language, and especially should he be saturated with the best literature. Few children are fortunate enough always to hear choice English. To make up for this defect, it is necessary that the child be saturated with the best literature. In his composition work he will at first imitate the style of the authors studied; but will gradually acquire a style of his own. All of our great literary geniuses have passed through the imitative stage, as is well known. It is through imitation along whatever line that the individual finds himself. It is because, through imitation, he exercises a wide range of tendencies, and synthetizes these into new possibilities.

This instinct is found in many species of animals below man. Kinnaman found that monkeys imitate each other's actions. It has been found by experiment that a great degree of perfection is added to the song of the young bird by imitating older birds, which perfection was not attained when the young bird was not allowed to hear the song of the older bird. Dr. Porter found imitation quite common in the birds with which he experimented.

The instinct of imitation appears in children as early as the fifth month, as was found by Dr. Porter in experiments on his own child of that age. Mrs. Burk made a study of imitation (Ped. Sem., April, 1897), based on E. H. Russel's observations, and worked out the following conclusions: Children imitate adults more than they do children and the lower animals. This tendency increases with his years. She found three kinds of imitation, direct imitation, playing, and imitation with a conscious purpose. The first is the more unconscious form, the second the dramatic, as in play. The third is self-explanatory. The first decreases and the second increases with age. She found that the imitation of the idea increases and the imitation of the actual thing decreases with age, and finally that in the early years there is a preponderance of imitation of action over that of speech. She appends some pedagogical suggestions: "(a) The natural tendencies of children indicate that adaptations of adult occupations furnish healthy material for part of the activity of the kindergarten. (b) From the age of four or five years considerable play should be given to the free development of children in connection with their social instincts. (c) In the early years of life action should be given a prominent place. The formal teaching of language should be subordinate. Verbal expression should be developed spontaneously in connection with action."

Dramatic Instinct.—A closely related form of spontaneous imitation is the dramatic instinct. This tendency begins to function during the third year and is nascent from four to seven, but continues active, more or less, throughout life. Dramatic imitation is ordinary, spontaneous imitation plus the imaginative element. It is the make-believe, play-form of imitation. Through it, there is very little that takes place in his environment that the child does not perform in his make-believe manner. He thus lays hold of these things in an experiential way and in this manner makes them a part of

himself. Spontaneous variation has an opportunity to function, and thus the child's individuality expands and grows apace.

This is a tendency that could be utilized much more than it now is. Much more of the work in literature and history should be acted out or dramatized. The dramatic instinct is one of the chief avenues of approach to the child, in teaching it literature and history. This work should retain its spontaneous element to be most productive of good to the child. It should never be allowed to drop down to the level of a drill exercise. The purpose should not be to develop dramatic talent, which is quite another thing from dramatic instinct. Dramatic instinct belongs to every child. This we cannot say of dramatic talent. The purpose of exercising the dramatic impulse is to deepen impression through expression. Such procedure arouses and broadens his sympathies.

In the process of adjustment of the individaul to his environment, many native impulses are inhibited and repressed. Such repressions disturb the psychic balance. Many of these tendencies which have been thus repressed were once necessary, in the earlier history of the race, for their survival value, such as stealing or killing. Away down deep in the race soul there are these tendencies which may function in a harmless way in these make-believe performances of the dramatic impulse. Let the boy impersonate the villain in his work in dramatics and thus through this play activity he will be vaccinated against ever actually becoming a villain. His soul will be purged of these evil tendencies and thus will a katharsis be worked in him. On the other hand, the boy or girl who impersonates the admirable character will assimilate something enobling from such characters.

Miss Herts made a study of the dramatic work in the public schools of New York and Brooklyn. This she reports, with criticisms, in the Ped. Sem., December, 1908, p. 552. She found the pupils "acting out" various scenes from history, as Braddock's defeat, signing the Declaration of Independence, the discovery of America by Columbus, etc. She found the children very much interested, but felt that the mistake was on the part of the teacher. In all the rooms visited she felt that the teacher had the wrong point of view, and hence placed the emphasis in the wrong place. She says: "In all the school rooms observed, the principle had been grasped by those in authority that the fact acted out is the fact remembered, and that in 'acting' the lessons the children unconsciously lent their fullest co-operation with the work of learning in hand. The psychological principle * * * operates more widely than for the mere attaching of the interest and memory to fact. The object of dramatized lessons is to create in the unexpressive child through the cultivation of its imagination in relation to the assumed part, a something which did not previously exist for that child." She goes on to say that instead of doing this the teacher appeals "to the dramatic talent of the naturally expressive child to elaborate a something that already existed." Miss Herts distinguishes between dramatic instinct and dramatic talent as follows: "Dramatic instinct is a significant factor in the life of every individual, connecting and welding the individual with communal life, and the human with the universal. Dramatic talent, on the one hand, is a special, uncommon gift bestowed upon the limited few. Dramatic instinct, on the other hand, is the common heritage of every child." She maintains that the work should be

assigned without reference to the child's natural aptitude to act out the part, thus developing dramatic instinct instead of dramatic talent.

Gregarious Instinct.—The gregarious tendency or instinct makes up much of the so-called social instincts. The social tendency is more comprehensive than the gregarious tendency, since it includes phases of other instincts or tendencies, as, for example, sympathy, which is a form of the imitative instinct; love of approbation, which is a form of the self-regarding instinct. These two tendencies often act in conjunction with the gregarious instinct, but are not essential to its functioning. We find the gregarious instinct manifested more often in its pure form among the lower animals than we do in human beings. It no doubt had its origin in the mutual protection it afforded—and hence survival value—to those individuals that exercised such tendencies.

The helpless condition of the human infant calls forth this tendency very early. It is functioning as soon as the child shows a tendency not to want to be left alone, though it is best manifested when the child begins to take delight in being with other children, especially those of his own age—the mere joy of association.

All through childhood its play aspect is manifested more or less, but becomes especially active later in the juvenile period, when the child begins to participate actively in co-operative and group games.

This instinct is manifested in later childhood and early adolescence, especially in boys' games; also in the chumming of girls. Many lawless tendencies develop from the gregarious instinct of boys, as it is manifested in their gangs. While this condition should give the parent and teacher some concern, especially to allow these tendencies to function along legitimate channels, and not to try to stamp them out, yet I believe there is a tendency to magnify the evils resulting from such tendencies. Plays and games adapted to this period should be provided. Organizations should be encouraged. In this way these forces can be turned to good account. Camping expeditions are good. A great deal of this can be handled through organizations. Literature, in which these tendencies are manifested, as stories of hunting and camping expeditions, and tales of adventure, should be wisely chosen and given.

While it is necessary for children to associate with those older than themselves, especially in the productive functioning of the imitative instinct, yet so far as the gregarious instinct is concerned, it is more necessary that the child associate with those more nearly his own age. In this way only can he learn the give-and-take principle of life. In this way he comes to a clearer conception of his own true worth and true relationship toward his fellows. He learns some of his first lessons of self control. Through the functioning of this instinct, the individual tends to pass from egoism to altruism. The associations that the child enjoys in our graded public schools are very helpful in the right functioning of this instinct.

The gregarious instinct is so pronounced among many of the lower animals that such animals are referred to as gregarious. More specifically, we have a long list of collective nouns referring to such groups of animals, as herd, flock, swarm, colony, etc.

In the child such aspects of this tendency have been studied as gangs, clubs, chums, etc. Puffer, in his study of Boys' Gangs (Ped. Sem., June, 1905), concludes that the gang has its origin in the following instinctive tendencies: "social instinct, feelings of dependency, the instinct of activity or workmanship, the combative instinct, the instinct to roam, the instinct to learn, the love of excitement, and the predatory instinct." He concludes that the gang cultivates a democratic spirit, courage, rudimentary elements of justice, subordination of oneself to the crowd, fidelity and loyalty, virtue of obedience to a leader. He found further that the gang does not develop chastity, but the opposite. It tends also to break home ties, but he concludes that the good cultivated far outweighs the bad.

Bonser, in his study of Chums (Ped. Sem., June, 1902), arrived at the following conclusions: At one time in its earlier years the child forms an intimate friendship with another which is permanent in a large percentage of cases. Conditions of environment have a larger place in determining such friendships than temperamental affinity or conscious selection. The constant associations of chums develop the social qualities, provide for the satisfaction of transient race instincts, materially aid in the cultivation of self-reliance, individuality, and altruism. Finally, that this close contact and sympathy have a profound influence on life and character, especially fitting the individual to become a unit in the social whole.

Migratory Instinct.—It is quite likely that the migratory impulse evolved in our forbears through the need of environmental adjustment as to food, shelter, safety from the enemy, seasonal adjustment, also sex. These tendencies persist and appear in various forms in the growing child. In the home and school this group of tendencies appear in the impulse to run away and truancy. It first appears in early childhood in the tendency to run away—sometimes in a very persistent form. In general, it seems to have its origin in a feeling of discontent—a lack of harmony with the environment. It is accompanied by a desire for greater freedom. A desire to be out of doors; to breathe the free air. It may take on the form of revery and day-dreaming.

This impulse is stronger at certain seasons of the year than it is at others, especially in the spring. As is well known, there are more cases of truancy in the spring than there are at any other season of the year, perhaps due to psycho-physiological disturbances, which bring on spring-fever, day dreaming, and a general feeling of unrest. These are the conditions that cause the home and school much concern. Truancy is such a common misdemeanor that in most schools a truant officer is employed. In this way teachers and school officers seem satisfied that they are handling the evil of truancy in a successful manner, but while they may compel the boy, in body, to be present, yet in mind he is, in most cases, far away. This mental truancy in school is far more common than we think. It is caused by the same impulse that causes him to run, or stay away from school. This languid, inattentive condition does not indicate that the pupil has no interest in anything. If the child's native impulses would lead him to the "vernal wood," then there should the teacher go with him,

because then can the "vernal wood" teach him more than all the sages can. Much can be done in nature study and nature poetry and prose at this season of the year, when the child is especially nature-tropic. Literature that is in tune with the dreamy, springtime moods of the pupil, should be given if we follow his native interests.

In dealing with these race tendencies, there is so much in our schools that is unnatural that at all seasons of the year a sort of shut-up or caged-in feeling pervades the school, more or less. When the pupil begins to feel this pressure, then this migratory impulse seizes him and if he cannot wander in body he will in mind. These tendencies can be avoided in a great measure by shortening the study periods, making more frequent and longer the periods for rest and recreation. Manual training will do much to work off this feeling of discontent and elsewhereness. In other words, the migratory impulse can be made to function vicariously through the constructive instinct. During the latter part of the pre-adolescent period and the early part of the adolescent period, this migratory instinct is strong, and is manifested in the tendency to play truant and to run away from home. In addition to the remedies suggested above, much may be done through literature properly to purgate the evil tendencies of this instinct. Such stories as Robinson Crusoe are wholesome, in which the boy, in his imagination, can run away from home and with his hero must endure the hardships along with the pleasures of such an expedition. Such stories will usually vaccinate him against actually running away from home.

Love of home is a tendency that counteracts or neutralizes this migratory impulse. Whatever will tend to develop in the individual a love for home, together with its environments, as woods and streams and fields and hills and neighboring town or city, will tend to overcome this impulse to wander.

It should not be the aim of education to crush out entirely this migratory instinct, but, on the other hand, it should not be allowed to become arrested on a low plane of development, else we shall have the vagrant, the tramp, the hobo, or at least the person who is a chronic victim of discontent, and as a result is continually moving about from place to place. On the other hand, the opposite tendency, the love of home, may also become an arrested tendency, and we shall then have the person who never goes away from home of his own choice, and if he is compelled to be away from home even for a short time he is very unhappy. The normal person should have these opposing tendencies so developed in him that he will enjoy travel, but will want a fixed abode which he will delight to call home.

The migratory instinct is to be noted especially in such lower animals as birds and fishes in their seasonal migrations. Kline maintains that this feeling to go elsewhere is due to physiological changes brought on by food and temperature changes. In relation to seasonal changes, the sex and breeding impulses are affected in such a way as to cause the migratory impulse to function. This is seen in the

migrations of the salmon from salt to fresh water during the egg-laying and breeding season.

Kline made a study of "Truancy as Related to the Migratory Instinct" (Ped. Sem., January, 1898), in which he draws some valuable conclusions. Between the ages of one and three or four he found that running away is very common. "It is impulsive, aimless, wholly unconscious of attendant circumstances, such as bodily danger, anxiety and worry to parents." Often delight to run further when pursued. During the period from four to seven he found the causes to be various, "fondness for new places, new sights, strange people, desire to do new things not supervised by elders, make new acquaintance with man, beast, plant and earth, to explore new places and experience the unexpected. There is no special interest in any one place or thing, but it is all places and all objects. Anything will set them agoing, a stranger or loud-dressed persons, a peddler, a tramp, a crowd, a team, a band, a procession." He found the conditions during the period from eight to twelve as follows: "An inordinate love for certain pleasures; impatient of restricted liberty; inferior home comforts; injured feelings and anger; desire to earn their own money." Kline found, on the other hand, that the tendency to run away often ceased at the beginning of this period, "owing to a new interest in home and society."

Instinct of Curiosity.—The most varied of all the innate tendencies in its functioning is the instinct of curiosity. It begins to function as soon as the child begins to give attention, and continues to function throughout life. It is conditioned at all times by the tendencies both innate and acquired, and conditions at all times the individual interests. It is that impulse that makes the child aggressive to come into closer relationship with his environment. It keeps the mind in a constant state of apperception. It is through the instinct of curiosity that the individual is led to the continuous assimilation of his environment. It seems to be the instinct whose function it is to make sure that the individual enters into possession of the inheritance bequeathed to him by the race.

The instinct of curiosity attends the proper functioning of all those innate tendencies that have to do with the learning process. If these innate tendencies are properly stimulated during their nascent periods, then is the instinct of curiosity ever present to add zest and vigor to the right functioning of these processes.

Curiosity is most active when there is a certain degree of the novel or unfamiliar in the objects stimulating this impulse. This augments the feeling element, and hence the interest.

The instinct of curiosity acts in opposition to the instinct of flight. In the former there is the impulse to approach and examine that which is unfamiliar, while in the latter there is the impulse to flee away from the unfamiliar.

To excite curiosity, there must be also a certain degree of the familiar. That which at first excites fear may, as it becomes more familiar, begin to excite curiosity. The instincts of curiosity and fear alternate in rapid succession in the young child, but in adults they usually act simultaneously.

Folk literature is rich in matter appealing to these instincts. The soul of the child is delighted with this literature which causes these instinctive emotions to function in a harm-

less way, thus working a katharsis of the emotions of fear. To this psychic effervescence is due much of the charm of such literature. This, in part, prevents fear from being arrested on a lower plane of development, and raises wonder to a higher plane of functioning.

The relationship established between the individual and the object to which the impulse of curiosity leads him, gives rise to a feeling called interest. This may be only temporary or it may become a permanent feeling-state.

The child's questions indicate the direction of his impulse of curiosity. At first the child's curiosity leads him to the effort to get new sense experiences. Later, when he has learned to talk, he wants to know the names of things. Later he wishes to know the use of objects. Following this he begins to ask concerning the cause of things. This may occur as early as the third or fourth year. Motion and color and sound are strong stimuli to incite the impulse of curiosity.

The child's animistic tendencies make him curious about nature from the mythopoeic standpoint. Scientific curiosity is not yet for him. Later, when he is well started on the juvenile period, his animistic tendencies have faded out so much that he is interested in nature more from the natural history point of view. This is the direction in which his curiosity leads him. This attitude continues well into adolescence and gradually becomes formally scientific.

In the field of history the child's curiosity leads him to an interest in this subject in the form of the story. During the juvenile period this curiosity is more in men, especially the hero; hence history, in the form of biography, is the phase that appeals to him.

The child's curiosity in the phenomena of his environment, should be the point of contact in teaching him geography. This includes the juvenile period and early adolescence.

The impulse of curiosity that leads the individual to take things apart to find out how they are made should lead to the proper functioning of the constructive instinct. On this should be based the work in manual training and related work, as discussed under the constructive instinct.

At eight or nine, curiosity in questions of sex begins to function. This does not seem to form an exception to the general principle that when the child becomes curious about things—that is, begins to ask questions—that then is the time ripe to begin to teach him at least something about such things. In matters of sex this is difficult, but the difficulty must be met by parents and teachers. This curiosity will be satisfied in some way, and it better come from parents and teachers than from questionable sources.

Throughout childhood, imitation and play supplement the work of curiosity, especially where the thing in which the pupil becomes interested is of such nature that it can be imitated or acted out in play.

As regards curiosity during the period of adolescence, it may be said that the individual's interests are so varied and

all-encompassing that there is scarcely an aspect of human culture into which his instinct of curiosity does not lead him to make excursions.

Curiosity is found in many animals below man. It is especially strong in the monkey. Groos says that "next to the child the monkey is the most curious of animals." Groos maintains that the dog's curiosity is what makes him valuable as a watch dog. Dr. Porter, in his study, "Intelligence and Imitation in Birds" (American Journal of Psychology, January, 1910), found that the sparrow is more curious than is the cowbird or the pigeon.

The following facts are drawn from the study of "Curiosity and Interest" (Ped. Sem., September, 1903), by Drs. Hall and Smith. They found that the first act of attention occurs sometime during the second week. This is only momentary. The next step occurs about the fourth or fifth week, when the baby actively directs its attention toward an object, especially one that is bright or moving. The auditory develops along with sight. The stage of active experimenting occurs during the second half of the first year. They found that the questioning phase of curiosity developed along with language. These questions they classified under the following heads: (a) forces of nature; (b) mechanical forces; (c) origin of life; (d) theology and bible stories; (e) death and heaven; (f) questions which are merely inquisitive. Twice as many boys as girls were interested in mechanics and the interest is shown early. Questions relating to the origin of life were asked chiefly by children between three and eight. Closely connected with these questions were those pertaining to religion. The child's attitude toward death during this time was found to be largely that of curiosity. Between four and eight the child is destructively curious. Toys are usually the objects destroyed. During the adolescent period, the desire to travel is strong. This desire seldom appears before ten. This desire is usually initiated by the reading of books or by stories told by friends who have traveled.

Hunting Instinct.—Closely related to the fighting and collecting instincts is the hunting instinct. It had its origin chiefly in the struggle for food in which fighting was almost always involved. It is manifested in the primitive tendencies to hunt down and kill an enemy. One of its prominent aspects is to destroy life—to kill. It is also manifest in the tendency to plunder and steal. Here, it is closely related to the collecting instinct.

It might seem strange that these primitive tendencies should concern us in the education of the child were it not that they appear in his life in various forms and with much vigor. It is more common than we think. In conjunction with the migratory instinct, it causes the boy to run away from home or school, to go fishing or hunting. It is that tendency that impels the boy to rob and destroy birds' nests. That causes him to catch and pull off the legs and wings of insects. In conjunction with the gregarious and collecting instincts, it leads him to join the gang and to go out on plundering and stealing expeditions into neighbors' fields and orchards. It is that primitive tendency in boys, when in camp, that makes the chicken, stolen from a neighboring hen-roost, taste much better than the one brought from home. Many a boy has fetched up in juvenile court because of the lawless functioning of this tendency. Not that the boy is really bad, but it is a case of misdirected energy. While these tendencies should be directed along more legitimate channels and curbed here and

there, yet I believe parents and teachers and officers take boys a little too seriously with reference to the acts committed as a result of the functioning of this tendency. Few men there are who have not indulged this tendency, more or less. In order that the boy be best fitted to become a member of a civilized community, he must, in a certain measure, travel the road over which the race in its evolution has come, by recapitulating in mild form some of the traits of his savage forebears. If the principle that a little evil indulged in will vaccinate against the committing of greater evils in the future, it surely is true here. Therefore, let us not take boys too seriously, or we may run the risk of causing arrested development in their moral education. We must not nip those things in the bud that will grow into virility and rugged manhood.

The question that we are specially concerned with here is, "How can the interests arising from the functioning of this instinct be utilized in the education of the child?"

Let us note first that this instinct finds expression, in a great measure, in its play aspect as is seen in such games as tag, hide and seek, hurling and throwing. Such games should be provided for and encouraged. In this way these tendencies will be drafted off along legitimate channels, and will be transmuted into physical and mental well-being. The hunting instinct takes the child afield. This furnishes the point of contact to lead the child to an interest in nature. The skilful teacher should be able to change the child's attitude of desiring to destroy animal life about him into a sympathetic interest. Such an interest, for example, would lead him not only to spare the bird's nest instead of robbing and destroying it, but to take an active interest in protecting it. The plea here is not to spare animal life indiscriminately, but to counteract the indiscriminate destruction of life. The practical outcome of this work in nature study is to lead the child and adolescent to love and protect the life about him that is harmless and helpful to man, and to turn his tendency to destroy upon the life that is harmful. He should, by all means, be allowed to fish and hunt. It is quite likely to happen that if the child is taught to save life without discrimination, because of the moral lessons involved, he is in danger of becoming a victim of arrested development in his moral development. Such a procedure in moral training defeats its own purpose.

In the grammar grades and high school, many valuable lessons can be taught and permanent interests established in civic biology through the proper utilization of the native interests arising from the functioning of the hunting instinct.

It has been shown by Groos that the hunting instinct appears very early in many of the higher forms of animal life in the form of play and later becomes a serious form of animal activity. The kitten chases an object, as a ball. It plays with the mouse brought to it by the mother. The puppy plays with mock prey, as pieces of wood.

This tendency to hunt and chase and kill is early exhibited in children, especially among boys. It is shown in the desire to throw chips, stones, and other missiles, at almost any sort of target, and especially at animal life. Also to chase and kill any kind of animal life without reference to the use that these objects may serve. This

instinct was very useful in our savage ancestors in securing food. G. H. Schneider (Der Menschliche Wille, Berlin, 1882, p. 62) is quoted by Groos as saying: "The boy never eats the butterflies, beetles, flies, and other insects which he eagerly pursues and possibly dismembers, nor does he suck the eggs which he gets from nests in high trees, often at the risk of his life. But the sight of these creatures awakens in him a strong impulse to plunder, hunt and kill, apparently because his savage ancestors obtained their food chiefly by such acts." James says that "A boy can no more help running after another boy who runs provokingly near him than a kitten can help running after a rolling ball." James maintains that if not exercised, the hunting instinct "may even entirely die out, and a man enjoy letting a wild creature live, even though he might easily kill it."

Collecting Instinct.—The instinct to collect, to acquire, to possess, is universal among men and extends far down in the scale of animal life. It manifests itself very early in the child. It appears during the first year, and the collecting aspect appears as early as the second year. It is usually active throughout life in some form. The way in which the child manifests this instinct depends to a great extent on his environment. Imitation enters in very materially; the child collects and desires to possess what he sees others collecting and possessing, but this should not be considered proof that it is not an instinct. With all its variation due to environment, there is beneath all these varied tendencies the tendency to acquire and possess something, even aside from any motive that might be considered utilitarian.

Not only is this instinct modified by imitation—in fact its manner of manifestation depends almost wholly on imitation—but it is closely bound up with the functioning of other instincts. In connection with the instinct of rivalry, it becomes very intense. Working in conjunction with the self-regarding instinct, it may cause this instinct to swing over from negative to positive functioning. That is, the acquiring of property in the form of collections or what not, may bring to the fore the positive self-feelings, stimulated especially by the successful functioning of the instinct of rivalry. It may act in conjunction and augment, the instinct of beauty or the aesthetic instinct, in the collecting and possessing of beautiful things.

During childhood the objects collected usually have a sensory value, bright and attractive, as bright marbles and chromos. The objects have value for their own sake. Later, during adolescence as altruism develops, this aspect adds value to the things collected. Instead of colored cards, photos have more value. Such objects as marbles lose their value, and collections of autographs mean much more to the collector.

The question for pedagogy is, "Can this native interest in making collections be utilized in the education of the child?" I think one is safe in answering this question in the affirmative. Since this instinct has such a varied manner of functioning, what the child collects depending so much on the instinct of imitation, it is possible for the teacher to direct and modify the functioning of this native tendency along useful lines. Its functioning can be made to lead to an interest in

nature study in collections from that field of knowledge. This, of course, includes elementary work in geography. This instinct can be turned to good account in the matter of making collections of clippings from newspapers and magazines, useful in almost all lines of school work. This is to include collections of memory gems, both in prose and poetry. In this way, this instinct can be turned to good account along many lines and can thus be made an educational force worthy of the consideration of the thoughtful teacher.

The above suggestions apply most to the pre-adolescent years, since the instinct is strongest during that time; but it applies also to adolescent years in a large degree. Here the instinct crops out in the form of fads and fashions, but the interests established during the pre-adolescent years must be followed up and built upon during adolescence.

This instinct touches elbows with the constructive instinct in the work in manual training. This instinct, which, in its deeper meaning, is the instinct of ownership, is appealed to when the child makes that which is to be his very own, and especially if it is an article of use to him. In making collections, especially in natural history, the instinct acts in conjunction with the so-called hunting instinct. The instinct of curiosity, too, is ever present.

There are those who may feel that the collecting instinct should be stamped out—if that be possible—or allowed to atrophy, because it seems to lead to forms of selfishness of very objectionable forms in childhood and of fads in adolescence. But if the child recapitulates the race, then there are these apparently evil tendencies of his savage and perhaps prehuman ancestors that must function or be arrested on a low plane of development, which is apt to give us the miser or the thief. The child, through the proper functioning of this instinct, has an opportunity to learn lessons of property rights, of thrift and of right values.

This instinct, properly developed, will help to solve some of the social evils of pauperism and vagrancy and of the poor in general.

The collecting instinct is closely related to the hunting instinct, and no doubt grew out of it. It is seen in the lower animals in the tendency to store up food for the winter, as in the squirrel in storing up nuts. Also in the bee in storing up honey. It is an aspect of the property instinct. There is a tendency in some animals to make a collection of objects, without apparent reference to their use, as is seen in the crow in its tendency to make collections of miscellaneous objects.

Mrs. Burk has made a careful study of the collecting instinct in children, and concludes that it is practically universal among children. It appears early and develops rapidly after six and continues to increase 'till adolescence. She found it strongest between eight and eleven. Mrs. Burk found that boys concentrate more on a few things in their collecting than do the girls. These run as crazes or fads for a time. She found that what children collect is largely due to imitation rather than a matter of individual preference. It was found that environment had much to do with what the children collected. The Santa Barbara children, living near the ocean, collected sea shells and sea moss; while the Santa Rosa children, living in an agricultural

valley, collected birds' eggs and other objects of the environment. As to methods of making collections, Mrs. Burk found that they were either obtained by their own exertions, or were given them, or were traded for, or were bought or won. The above was the order for boys, and for the girls more were given them, next found, bought, and traded for.

Animistic Instinct.—The animistic instinct is nascent throughout almost the entire period of childhood. It is perhaps most active at about five years—sometimes a little earlier and sometimes a little later. It is manifested in their active interest in the myth and the fairy tale. The myths that have come down to us reveal the attitude of primitive man toward his environment. In the early history of the race, this attitude was retained throughout life, but among civilized races this attitude passes with the passing of childhood; that is, it is no longer an active conscious attitude after the ushering in of the period of reasoning, but it does, and should, remain a psychic stratification in the deeper sub-conscious parts of the soul, just as should many of the tendencies of childhood and youth. Else the fountains of childhood and youth will not flow in the life of the adult and as a result his life must become desiccated and stereotyped.

Since the child's attitude toward the world is closely in harmony with that expressed in the myth, we should consider the animistic tendency or instinct very important in the question of the way of approach to the child. One of the expressions of the animistic instinct is the child's native interest in the myth. The myths should help the child to interpret the phenomena of his environment and to do so most efficiently it should be made up of elements that are in harmony, in a large measure, with his present environment.

In this animistic tendency, the child projects himself, or rather certain of his own characteristics, into the objects of his environment. This tendency also leads him to attribute certain adult psychic phenomena to objects of his environment. Through this tendency he may regard the stars as the eyes of God watching him at night. Or he may attribute this power to the moon or to trees or to mountains. Who will say that these are not powerful forces in making for weal in the moral development of the child? We all remember Hawthorne's story of the Great Stone Face and the effect the Old Man of the Mountain had on the life of Ernest.

The child that sees in the flower a human face, and the dewdrop resting therein as tears, is experiencing a psychic expansion in human sympathies that, at that time, due to his extreme egoistic tendencies, he could not acquire through association with his fellows.

A study of the child's animistic tendencies is a key to right methods in nature study. Teachers and writers on nature study would force upon the child the attitude toward nature that belongs to a much later period. In fact, this mistake is made also with the adolescent in the high school. I refer to the forcing upon the pupil, of whatever grade, the viewpoint belonging to a higher grade. If we would teach

the child truth we must lead him to a knowledge of his environment through his own natural tendencies. His is not a world governed by physical law, but one animated by psychic qualities closely akin to his own. Let the nature myth be closely correlated with the work in nature study. He should be saturated with nature poetry suited to his age.

This animistic tendency is at the very root of the developing of the religious nature of the child, just as it was at the very foundation of primitive religions. Properly trained, this tendency will lead the child to a healthy attitude of awe and reverence toward his environment. This attitude is fundamental to right religious training later.

The adult whose animistic tendencies were properly trained in his childhood has "glimpses that make him less forlorn." For him there is more of a "pleasure in the pathless woods," and a "rapture on the lonely shore." As it were, he will "have sight of Proteus rising from the sea, or hear old Triton blow his wreathed horn." He will have life more abundantly.

Through the child's animistic tendencies he is brought into closer relations with animate and inanimate life about him. This tendency is at the root of his interest in pets. Kaylor, in his study, "Feelings, Thought and Conduct of Children toward Animal Pets" (Ped. Sem., June, 1909), has some valuable contributions to offer. A few will be noted here. He found that the order of popularity of pets was dog, cat, canary, horse, and rabbit, etc. The interest in the horse increases rapidly from seven to sixteen, in both boys and girls. At all ages, boys have more interest in rabbits than have girls. Boys have less interest in parrots than have girls, and this interest declines after nine, while in girls this interest gradually rises till fifteen, when their interest in the horse and their keen interest in the parrot are about equal. He found that young children prefer pets that they can fondle and carry around. His returns show that the child is interested most in the activities of animals; that he attributes to the animal moral qualities and emotions; that he shows real sorrow when his pet is taken from him, and sympathy when a pet is abused.

The child's attitude toward inanimate nature is well shown in the study made by Slaughter, "The Moon in Childhood and Folklore" (American Journal of Psychology, April, 1902). One thing clearly brought out in his returns was that the child attributes life to the moon—makes it a personality. They either regarded it as a man or as containing a man; sometimes, however, this personality would be a woman. Sometimes this person in the moon would be regarded as God, or as someone who watched naughty children and told God of their doings. Some regarded it as a place where dead people go. This study shows conclusively the importance of the moon in the child's life, and suggests the importance of other phenomena.

Expressive Instinct.—The expressive instinct is perhaps the most fundamental in the process of language learning, the instinct of imitation being a close second.

Just as the motor activities of the child have their beginnings in its aimless automatic movements, so does language have its beginnings in the meaningless babblings of the infant. Thus does the expressive instinct function, first in exercising the organs of speech, the lips, tongue, larynx, and lungs. These early forms of expression are wholly motor, but before the close of the first year they begin to be reactions to

sensory stimulation. About this time imitation begins to co-operate with the expressive instinct and words begin to take on emotional coloring and come more and more to have ideational content. Word learning proper does not usually begin before the latter half of the second year. Through imitation to aid him in learning words, the child is able to utter many words whose meaning he does not yet know.

Not only does the child learn to express himself in oral language, but he also learns to express himself even more vigorously by means of gestures of the body, face and limbs.

Another well known form of expression is that displayed in the child's work in drawing. It acts in conjunction with the constructive and aesthetic instincts in the work in drawing. It functions first in the so-called scribble stage, but comes more and more to represent mental states of the child.

In the earlier stages of the child's work in drawing, the expressive instinct is the predominating instinct, for he draws what is in his mind rather than representations of what he sees. Later, as his imagination develops and his power to execute increases, the constructive instinct co-operates more and more with the expressive instinct in the work in drawing. This is the condition during later childhood and pre-adolescence. During the latter part of pre-adolescence and adolescence, when the individual's sense of beauty is nascent, the aesthetic instinct co-operates with the instinct of expression and construction. As a result, the art phase of drawing becomes of interest to the pupil.

During the juvenile or pre-adolescent period, the language interest is nascent. It is so active that there is a strong tendency for the child to make words. This is the period of pig latin and a secret language, deaf-and-dumb alphabet, gesture language and slang. This is the time to teach him one or more foreign languages, chiefly, however, by the conversational method. This could be begun during the early part of this period, and during the latter part of the period, Latin and Greek, if they are ever to be taught the child, could advantageously be begun. Since the juvenile period is one of habituation, this is the time to give the boy or girl the language habit. In this way later work in language will be made easy.

Since the juvenile period is the nascent period for the verbal memory, not only can the above work be done to advantage, but also much can be done in the child's native tongue. He should become a master in his own language, so far as its mechanics are concerned. At the close of the juvenile period the boy or girl should be a good reader.

The juvenile's tendency to expression should be stimulated to function freely in oral speech. Less written and more oral expression should be the watchword: and indeed, so it will be if we allow his innate tendencies full rein. The circuit of communication established in the evolution of the race is the short one, from ear to mouth. The long circuit, from eye to hand, is of recent origin in race history and should always occupy a subordinate place.

Expression to be genuine must represent that which is within. If the individual's native interests are followed in the matter of language training, his language will truly express what is within. This is violated most in composition work. The work should be based on subjects in which the pupil is genuinely interested.

In the teaching of foreign languages, the new words should be presented in the presence of objects or pictures of objects which the words represent, and not through the medium of English equivalents. This is the natural way and hence follows the pupil's native interests. In this way the word is more readily recalled because it is associated from the first with the object which it represents.

Since imitation enters so largely into the process of learning languages, the child's environment becomes a most important factor. It has been said that if we give the child the proper environment, imitation will do the rest.

During the entire school period the pupil should be encouraged to commit choice passages from literature, both prose and poetry, especially the latter. This will aid him very materially in gaining a choice vocabulary. The adolescent should read widely and a few choice books should be read very carefully. Whatever enriches his life will aid his power of expression.

The language, or expressive instinct, in the lower animals is perhaps purely instinctive, as it is in the young child, consisting of sounds and signs, serving to express physical needs and the lower forms of emotional states. Trettien, in his study of the "Psychology of the Language Interest of Children" (Ped. Sem., June, 1904), worked out some valuable conclusions on the development of the expressive tendencies in children. The first form of expression that he found was the differentiated cry by which the young babe expresses its wants. The next stage he calls that of spontaneous babblings. He quotes Miss Shinn as saying that on the one hundred thirty-seventh day the child first showed signs of distinguishing between her voice and that of the mother. Trettien found that the child begins conscious imitation between the seventh and ninth months. A little earlier than this it was found that the child began to understand the meanings of certain words as, perhaps, dinner, papa, and mamma. He found a retardation of language development between the ninth and fifteenth months, due, he thinks, to teething and walking. Found a great increase in the rapidity of learning words from about the eighteenth to the thirtieth months. In some cases this began earlier. The child begins to use the sentence at about the eighteenth or twentieth month. Near the close of the second year, in some cases earlier, the child begins to use inflected forms in his sentences. The child begins to use the personal pronouns, according to Trettien, during the first half of the third year. About this time and a little later, there is a stage of spontaneous play upon words, as is shown in the interest in rhymes and jingles.

Rhythmic Instinct.—One of the most pronounced of the instinctive tendencies is that of rhythm. This tendency appears early in the first year of life. Very early in life is the child charmed into silence or lulled to sleep by rhythmic movements of the body or by the lullaby song. Before the child is two, it begins to be interested in jingles and rhymes, and a year or two later this interest is nascent. The child now

delights in jingles and rhymes. Firm and lasting foundations can be laid now for the rhythmic element in literature. Much of the delight and literary culture that the child derives from literature during the period of childhood is on its auditory side. Much poetry can be read and taught the child whose content he can little comprehend on the thought side; it is worth while for its auditory appeal.

Up through the grades, the high school, the college, and through life the rhythmic instinct continues to feed the interest in poetry. If more stress were laid on the reading aloud of poetry, in whatever grade, and less stress were laid on cold-blooded analysis, many would learn to love poetry who now turn from it in disgust. Let us remember that much of the lasting charm of poetry is in its auditory appeal.

Much of the interest the child manifests in music is due to the functioning of the rhythmic instinct. This interest should be quite as carefully ministered to as his interest in poetry. Through both poetry and music the child's finer sentiments of home and fatherland and religion can be cultivated.

The child's instinctive rhythmic tendencies are at the basis of his interest in marching and keeping time. Many exercises and games should be given, in which the child is by nature extremely interested, but which are likewise the exercises most needed to give him the very best development, not only for his present needs, but which will best prepare him for the periods to follow.

This instinct should be duly reckoned with in the question as to whether the child should be taught to dance. We know that it is as natural for the child to respond in rhythmical, bodily movements to music as it is for it to breathe. This is a tendency that should, by all means, be turned to educational account in the matter of teaching the child to dance.

No doubt the rhythmic instinct in man evolved to a great extent through his reactions to the rhythmic elements of natural phenomena, such as the swaying of the branches of the trees, the singing of the birds, the murmuring of the brook, the roaring of the waterfall, the pulsating of the ocean on its shore, and the reverberating of the thunder in the heavens, etc. The rhythmic instinct is one of the innate tendencies that leads the child back to nature. It creates in him a sort of home-sickness, as it were. Hence, the rhythmic instinct is one of the points of contact in the work in nature study. Let the work in nature study and nature poetry be closely correlated here. Thus, the sentiments that underlie the child's religious and aesthetic nature are fed.

In his study of rhythm (Ped. Sem., March, 1901), Sears found that it appears earlier in girls than in boys; that rhythmic movements of the fundamental muscles come before those of the accessory; that the child prefers duple to triple time; that the child prefers rhythms that are lively or fast. Returns seem to bear out Donovan's statement that "the infant is capable of attending to rhythmic stimuli long before it is capable of any other act of attention." Children become interested in nursery rhymes and jingles some time after they mani-

fest an interest in nursery sounds and movements. He found great variation in children in their interest in rhythm. They show decided preferences. "Mother Hubbard" led, with "Jack Horner," "Bo Peep," and "House that Jack Built" as close seconds. In regard to interest in marching, he found that special interest arises in girls from nine to ten and in boys from ten to eleven. Interest in dancing arises at about thirteen or fourteen. Sears thinks that since rhythm is so largely physiological no one is entirely void of it, but it exists in varying degrees. From this study of rhythm, Sears concludes as follows: "When we consider that the mind works rhythmically, that the body consists of nearly four hundred organs of motion whose action is rhythmic, that rhythm has been a prominent factor in the development of the race, and that probably the development of the race is in many ways repeated in that of the child, we are led to believe that the subject of instruction in rhythm demands more attention in both the home and the school than is now given it."

Constructive Instinct.—During the period of infancy the child can be said to manifest the tendency to construct, but faintly, if at all. For the most part, his life up to this time has been passive; but after getting his first teeth and after learning to walk, which mark his entrance upon the period of childhood, he becomes more aggressive.

In the early months of childhood this aggressiveness is manifested chiefly in moving about from place to place and in grasping objects—examining them first hand. This impulse to know things first hand manifests itself in the tendency to destroy things which is in reality a phase of the constructive instinct.

The tendency to construct is, perhaps, first touched off through the functioning of the instinct of imitation. The child builds up his blocks as he sees someone else build them. If he sees someone writing or drawing, he takes a pencil and imitates in marks or scribbles, but it is several years before he can do effective constructive work, due to his inability to co-ordinate his movements. His sensory during these years is far in advance of his motor ability. His fundamental muscles are fairly well developed, but not his finer accessory muscles. During the entire period of childhood, his constructive work should be such as to require the large, free movements which bring into function chiefly the larger, more fundamental muscles. Some work in drawing can be taught, but little, if any, work in writing should be done, because such work brings into function the finer accessory muscles. This is apt to cause arrested development or to bring on nervous trouble. His accessory muscles and the nerves controlling them are not yet developed. For this reason his movements lack co-ordination. His activity is an end in itself. He seeks activity, and hence growth, through play. The sensory still leads the motor in development. In his constructive work, the child should not be held to exactness. In his drawing work he should be allowed to follow pretty much his own bent. Large, free movements and spontaneity should be the watchword.

This tendency may be allowed to function delightfully and profitably during childhood, in paper cutting, modeling in clay

and sand; but here again, fine work and overexactness should be avoided.

During the juvenile period the individual is active in many directions. He has acquired sufficient mental and muscular co-ordination to become an effective producer. He should be led to make those things in which he has an interest and which may be of service to him. His impulse to make things should be correlated with his whole course, as much as possible. The juvenile period is a practical one and, therefore, that which he constructs should have some practical end. In the early part of this period he is perhaps most interested in toys; therefore, if we are to follow his native interests, we should allow him to make toys. Later in the period, and continuing through the school period of adolescence, because of his growing interest in scientific questions, his interest on the constructive side centers in scientific apparatus. In this way there may be brought about an interaction between the scientific and constructive impulses that will result in increased interest along both lines.

Let us always remember that the constructive instinct evolved in the human race through utility. The impulse that led men to make things was that of utility. If we would follow the pupil's native interests in the functioning of his instinct of construction, we should allow him to make those things which will be of use to him.

This is the period in which the mechanics of writing and drawing should be taught. His general tendency to do and to make may be turned along these channels. His tendency to self-expression should also be utilized in teaching him writing, and drawing, but no great amount of written work should be demanded. Accuracy, which would have been injurious during the period of childhood, should now be insisted upon in all lines of work.

No argument is needed to prove that the lower animals possess in a high degree the constructive instinct. This is a matter of every day observation. It is seen in the nest-building tendencies of birds, perches, hedgehogs, squirrels, field mice; in the earthworks of beavers, foxes, badgers, fish-otters, rabbits, etc. Also in the leafy arbors of many kinds of apes. The above enumerations are from Groos (The Play of Animals).

James, in his Talks to Teachers, p. 146, says: "Constructiveness is the instinct most active; and by the incessant hammering and sawing, and dressing and undressing of dolls, putting of things together and taking them apart, the child not only trains the muscles to co-ordinate action, but accumulates a store of physical conceptions which are the basis of his knowledge of the material world through life. Object teaching and manual training wisely extend the sphere of this order of acquisitions. Clay, wood, metals and the various kinds of tools are made to contribute to the store." Dr. Hall, in his "Story of a Sandpile," has shown in a very convincing manner the importance of the constructive instinct. Dr. Acher, in his "Primitive Activities of Children" (American Journal of Psychology, January, 1910), has given us some valuable facts in regard to this tendency. He found the block-building period to extend from before the close of the third year to the seventh year. If blocks were not to be had, they used other objects for this purpose. Constructing with sand and earth begins early and extends to a much later time than with blocks. Building with stones did not begin as early and did not continue as

late as with earth. The passion for making constructions of snow was found very general. Made forts, houses, caves, and large balls.

Moral Instinct.—If it is true that the child is neither moral nor immoral, but unmoral, it seems to be a contradiction of terms to assign to him a moral instinct. While it is perhaps true that the child does not have a tendency to act in any particular direction in consequence of the workings of moral instinct, yet there is a tendency to conform to law—to the necessities of his environment. This tendency, it must be admitted, is very faint in some children, due in great measure to the extreme egoism of the child.

One's tendency to conform to laws that are for the good of those with whom he comes in contact, as well as his tendency to conform to laws which make for his own well-being, may be considered the moral instinct.

During childhood the child's conduct, or impulses to do right, if they may be so called, are largely matters of imitation and suggestion on the part of his elders. And, too, what they allow him to do he considers right, and what they forbid him to do usually is wrong.

His impulses to do right evolve and function as he develops both physically and mentally. His impulses for right doing seem to depend for their functioning on the standards set up by his elders.

Standards accepted by the individual during his preadolescent years are often dominant factors in the direction taken by his ethical impulses, even throughout life. This is shown in much of the early training of the church. Hence, it is especially very important during the juvenile period, the period of habituation and co-ordination, to train the individual to act in accordance with right standards. These standards, however, are not to be reasoned about by the child, but to be accepted on the authority of his elders. His reason is not sufficiently developed to be able to acquire standards of conduct through this avenue. To attempt to force the child's reason at this period is to cause arrested development of the individual's moral impulses and also to impair his power for vigorous reasoning later.

Obedience, based on authority, appeals to the individual more at this age than does obedience demanded on the basis of reason. His instinctive tendencies to obedience respond to the former, but not to the latter, especially because of his inability to reason at this age. If the boy and girl are trained to obedience, the will of the adolescent will not have to be broken.

Moral training is the forming of right habits of conduct. It is to adjust the child to his social environment. When conformity to outer law becomes habit, then the law becomes an inner impulse. This should be the goal of the moral training of the child.

When right habits of conduct are formed, and thus right impulses to action established, then right doing becomes a pleasure to the child. In this way firm foundations are laid

for the period of pubescence, which is one of the most trying to pass through because it is a period of readjustment—a transition period to adolescence proper. The soul now begins to experience a tremendous expansion. It is beginning to feel itself a part of the great world. It is becoming altruistic. The individual has already had much preparation for this in the co-operative and group games, and the gangs and clubs of the juvenile period. He has become habituated to regard the rights of others, but now he begins to feel what he formerly did more from the necessity of the case.

One of the most important forces making for right moral conduct is the forming of right ideals. The child drew his material for ideal making chiefly from his environment. The pubescent and adolescent use these sources, too, but to a great extent get much from literature, history and art. The social environment is now very important, because the individual is so sensitive to the opinion of others. If his companions and elders are people of high ideals, he is pretty safe, morally.

The emotional life now, is at high tide. This is the nascent period to present much that is best in literature. There is hardly a form of literature that does not now appeal to the individual. Many dangerous tendencies in the emotional life can be drafted off by means of literature.

This is the nascent period to teach some of the most profound lessons that nature has for the individual. This can be done through first hand contact with nature and through nature literature.

Miss Patterson, in the study Children's Motives (Barnes Studies in Education, Vol. I, p. 352), has some optimistic conclusions. She had a class of first grade pupils reproduce orally a study told them, in which figure two characters, the bad white bear and the good gray robin. In their answers the boys showed a greater degree of selfishness than did the girls, but, on the other hand, the boys gave a broader ethical application of the story than did the girls. About 75% of the boys and 80% of the girls showed the spirit of unselfishness in their answers to questions given them after a lapse of two weeks. Miss Patterson concludes the study in the following words: "It is said that children are naturally selfish, and rightly so, as self-preservation is Nature's first law. With very young children this statement is certainly true. But these little ones come from families of the very poor, and many of them have had little moral training. * * * This study seems to indicate that there is in them such a thing as innate kindness and benevolence, and that unselfishness characterizes the majority of them."

Miss Darrah, in her study Children's Attitude Toward Law (Barnes' Studies in Education, Vol. I, p. 213), finds that the curve fluctuates till twelve, when it gradually rises. She concludes: "Young children regard punishment as an individual and arbitrary matter, imposed without reference to the social order, while after the age of twelve there is a steady increase in the regard for law, three-fourths of the children of sixteen appreciating its binding force." She thinks that there should be no definite penalties, but that the punishment should be suited to the individual case in children.

Religious Instinct.—The religious instinct, like the moral instinct, is an impulse that results from the operation of several other instincts acting conjointly. Some of these tendencies that may be appealed to in the religious education of the child

are credulity, fear, animism, curiosity, imitation, the dramatic instinct, the esthetic instinct, and the self-regarding instinct.

The child up to twelve or thirteen years of age is not, in the true sense of the term, religious, but these years before adolescence, in his religious training as also in moral training, may be considered a necessary preparatory stage. There are many stages, both religious and moral, through which the race passes, that are necessary for the child to recapitulate in order that he be best prepared for the religious renaissance or awakening that takes place during the period of adolescence.

He must pass through the age of myth, of form and ceremony, in which he must take an active part. Religion, for the child, cannot be made a thing of the intellect. It must be, rather, a thing of form and ceremony based largely on credulity or crude faith and, as much as the child is capable, a thing of the feelings—the cruder feelings such as belong to the child. Religion is at all times essentially a thing of the feelings, but not until adolescence does it lay hold on the deeper feelings. The work of religious training of the child, up to puberty, is essentially that of cultivating the feelings and forming such habits as will best fit him for the true religious awakening that comes at adolescence.

The mistake that is made in religious education is in attempting to force upon the child adult standards and viewpoints. Child study has already done much to change this method of procedure, and has still a great work to do in leading parents and religious teachers to see that religious training is without effect if it does not find a point of contact in the nature of the child.

As noted above, the religious nature of the individual during the period of childhood is seen chiefly in his credulity and mythopoeic or anthropomorphic tendencies. During the juvenile period there is a tendency to accept standards as based on the authority of his elders. There is a strong tendency to conform to law and custom. The literature that best fits the interests arising from his religious tendencies is that found in the Old Testament. As to its fitness to serve as proper food for the religious nature of the juvenile, Dr. Hall writes as follows: "The Old Testament begins with the myth of cosmic virgins, and passes to the agricultural and pastoral stage of Cain and Abel, the heroics of Abraham, Isaac, Jacob, Moses and Joshua, the royalty of Saul, David and Solomon, the legal stage of law and justice which so appeals to boys, to dawning prophecy, etc. It is all objective, strenuous, full of incident, battles, dramatic incidents, and with a large repertory of persons. There is fear, anger, jealousy, hate, but not love, and it depicts an age of discipline and authority." He goes on to speak of the fitness, likewise, of the New Testament for the religious nature of the adolescent, as follows: "Later comes the adolescent New Testament stage, with its altruistic motives, and, last, the philosophic age of Pauline and other doctrines which appeal to the intellect. All this is normal and in

pedagogic sequence, the order of which should not be reversed, as is so often done in religious teaching."

Lancaster, in speaking of the religious awakening at adolescence, writes as follows: "Religion before this age was a mere form. Now it becomes full of meaning. It is a new interest, and very many speak of it as a sudden awakening. It is often spontaneous, like the interest in art or music, or the love of nature. Where no set forms have been urged, the religious emotion comes forth as naturally as the sun rises."

In its functioning, the religious instinct is not a fixed thing, but is ever changing with the development of the individual. In its operation it works in close conjunction with many other instincts. In its early operations it leads the child to an interest in nature; indeed, this interest in nature, as stimulated by the religious impulse, should remain a permanent possession throughout life, if this interest is properly cultivated during the earlier years. Much effective work can be done in literature through the native interests arising from the functioning of this instinct, especially in nature poetry in which are the elements of awe, sublimity, majesty and grandeur, depicting the great forces of nature.

Starbuck, in his study of the religion of children, notes that one of the most prominent features is the unquestioning way that they accept what is taught them in church, Sunday school, home, etc. The element of imitation he found more noticeable among girls, and obedience among boys. He found some cases of incredulity and distrust. Their sense of right and wrong he found germinates very early and is a potent factor in childhood religion. Fear is prominent, but less so than love. Awe and reverence appear later. Starbuck finds a clearing of the religious atmosphere toward the beginning of adolescence. Ideas of God and duty begin then to take root in the life. The real religious awakening, he finds, comes with the advent of puberty.

Earl Barnes made a study of "Children's Attitude toward Theology" (Studies in Education, Vol. 2, p. 283). In his work he studied several hundred children. Following are some of his conclusions: A knowledge of theology meets a natural need of a child's mind and gives him a key to art, literature, and history. Sunday school and home must be depended on chiefly to give him instruction. Under ten, the child will accept almost anything told him, but there is a tendency for him to anthropomorphize. From ten to twelve is a period of doubt when these earlier attitudes are translated into spiritual equivalents. After twelve the religious life rests more in emotional conditions and unreasoning faith. The child who has not passed properly and healthfully through these various stages "will have lost something in the depth and strength of this humanity."

Motor Instinct.—By motor instincts are meant all those innate tendencies to movement. The first movements of the child are random, but none-the-less important. These early movements might be termed reflex; that is, they belong to the lower centers. It is through these random movements that motor or kinesthetic ideas or images have their genesis. This gradually evolves into controlled or voluntary movement.

As the child grows older, various nerve centers ripen in the motor areas, in a successive order, and thus give rise to innate or instinctive tendencies to movement. Suddenly the child begins to creep, or it may be, to walk. The nerve centers governing these respective movements are ripe or nascent

and the child is seized with the impulse to perform the act. The innate tendency is functioning.

It has been suggested that from the many aimless movements of the child, are chosen those which best adjust him to his environment; that is, have the greatest survival value. During the transition period from infancy to childhood, which occurs when he is learning to walk, and includes also the period of teething, the child changes from a receptive being to one of aggressive activity. This is also the first nascent period of the migratory instinct. At about this time, or a little later, there is a tendency for the child to climb upon things.

During the period of childhood, motor centers in the brain ripen in rapid succession, giving rise to many and varied tendencies to movement. These find an outlet through the play instinct chiefly. The muscles that function in response to these motor tendencies are the larger and more fundamental ones. During childhood there is a great lack of co-ordination of movement. This is especially true of the accessory or finer movements. To force these accessory movements to become co-ordinated is a common error of the primary school in the too-early teaching of penmanship, in the too-exact work in drawing; in fine, the forcing of the child to prematurely co-ordinated movement along whatever line, in order to make him skilful in such work.

During the juvenile period the nerve centers, governing the accessory muscles and hence the finer accessory movements, ripen rapidly. During this period co-ordinations, both physical and mental, become well established. This is the period to establish right habits in movement—to make them automatic as much as possible. Discipline, drill and habituation, are the things to be emphasized during the juvenile period—the period from about eight or nine to twelve or thirteen. The individual, during this period, grows more slowly than during the previous period (childhood), but his vitality and activity increase very markedly. He is less easily fatigued and hence can do much work along many lines. This is the nascent period for writing, drawing, manual training, the technique of musical instruments and the forming of right habits belonging to the vocal apparatus. The many physical and mental readjustments of puberty bring about some regressions but, during adolescence, co-ordination is regained in greater degree, and the individual is now capable of the greatest degree of skill possible.

Motor tendencies are, in some form, a universal possession of all animal life. They are very simple in the lowest forms of life, but become more complex as the scale is ascended. There is a general correspondence between the degree of intelligence and the complexity of movement. In many of the lower animals a large per cent of its motor tendencies are functioning at birth. Some are about as helpless as the new-born infant, though their period of helplessness does not last as long. Says Groos: "Birds can no more fly of themselves than babies can walk. The infant's kicking corresponds to the fluttering of little birds in the nest and his first step to its first attempt at flight." Shepardson, in Ped. Sem., March, 1907, p. 102, quotes Ross

as follows: "The main movements which distinguish man from the lower animals are those concerned in attaining the erect posture, the varied movements of the hands as organs of prehension, the movements of voice and articulation concerned in speech and those which are active in the production of facial expression."

J. A. Gilbert reports in the Iowa University Studies in Psychology, Vol. 1, a study of the motor ability of children. In "wrist lift," boys have greater strength than girls, at all ages, the difference not being so marked till age fourteen, but at nineteen a boy lifts about twice as much as a girl. "Mean variations remain comparatively regular for the two sexes until about age fourteen, and the change in the variation is largely due to the change in growth coming at that age. Girls seem to complete largely their development a year or two previous to the time at which boys have just begun their most rapid period of development."

Play Instinct.—Play is an activity that prepares the individual for the serious work of life, by giving a certain practice in doing things. It is an act that is performed for its own sake, and is therefore perfectly adapted to the performer. It is a spontaneous activity. Almost every innate tendency has its play aspect. Play is a preparatory stage for most of the tendencies. Surplus energy does not cause play, but makes the conditions more favorable. The first forms of play are the aimless movements of the infant. These are performed again and again.

The spontaneous activities of the child are the true revealers of his nature. Through play activities, the various instincts function and pass over into habit. The form of the play activity is determined, through imitation, by the nature of the environment. In this way the child is adjusted to his environment and this adjustment is made stable in the passing over of the instinctive tendencies into habits.

Play should never be closely supervised; especially is this true during the period of childhood when spontaneity is its chief characteristic. No spontaneity, no initiative. It is in play activities that the child, in a great measure, exercises his race tendencies, so that these activities must be on his own initiative and hence, spontaneous. These activities are ends in themselves. Organized play is not for the child. He still lacks the element of control—of muscular co-ordination. He has not as yet acquired control of his accessory muscles. During childhood the games are more or less individual. Egoism dominates the child's life on every hand. During the first four or five years of the child's life, what he plays is largely a matter of imitation. The child's activities during this period are almost wholly of the nature of play. What the child plays should be largely of his own choosing. He should be given opportunity to have great variety. Through the great variety of his instinctive tendencies, and with the aid of imitation, there is scarcely an activity of his environment that he does not act out. During the greater part of the period of childhood, imagination is the predominating element in play. Through imagination and the play impulse the child acts many and varied parts. Through these tendencies the child grows rapidly and in many directions. He is especially

interested in acting out what he hears. This is the nascent period to have him dramatize stories.

During the juvenile period, the aspect of emulation enters more and more into the games. In these co-operative and group games the individual learns as nowhere else how to conform to law. He is acting out in play what he must act seriously later in life as a member of society. This is the best sort of civic education.

During this period play should continue to be spontaneous as in childhood, but the individualistic aspect is growing less and the spirit of co-operation is on the increase. During the early part of the period the bonds that hold together the group in these co-operative games are weak and easily broken, but the tendency is there and grows stronger till toward the close of the period. At twelve or thirteen, such organizations as are seen in team work on the athletic field, remain in effective organization for months at a time. The individual has learned to give up much for the sake of the group. Spontaneity has passed, to a great extent, from the individual to the group. In childhood, the initiative was largely with the individual; now it is chiefly with the group. Through these group or co-operative games the juvenile learns many valuable lessons of self-control. He is being fitted to become a true member of society.

The fighting and hunting instincts function as play during the latter part of this period and during the period of puberty, so that games of contest are now prominent. Predatory tendencies show themselves in play at this time, in gangs whose purpose is to hunt, fish, rob, etc.

Since the play instinct is an aspect of nearly every other instinct, it may be utilized along many lines in developing and increasing the individual's range of interests.

The play aspect of the collecting and hunting instincts may be utilized in creating in the child and youth permanent interest in nature, through making collections. This close contact with nature will lead to other interests. The constructive instinct, too, has its play aspect. Dr. Hall has shown what a tremendous force this is in the life of the child in his "Story of a Sandpile." In manual training, so-called, this play aspect shows itself vigorously if the pupil is allowed to follow his own bent in what he makes; if allowed to make that which will be of use to him.

Groos has well shown in his Play of Animals that play is a very common instinct in the lower animals. Not only is it found in young animals, but in old ones as well. He says: "I have a dog twelve years old that still shows a disposition to play now and then." "The cat plays with the captured mouse and the cormorant with the captured fish. The weaver-bird, when confined in a cage, amuses itself by neatly weaving blades of grass between the wires of the cage." We are all familiar with the play of kittens and puppies.

Miss Sisson, in her article on Children's Plays (Barnes' Studies in Education, Vol. 1, p. 171), has given the results of an observational study of a group of twenty-nine kindergarten children. This being a kindergarten connected with the public schools, all classes of children were represented. Daily observations were made. No suggestions

were made as to what the children should play. They soon divided into four groups. First, the larger boys who played somewhat rough and boisterous games. Second, the larger girls whose games were wholly dramatic, playing house and school in rather a quiet manner. Third group made up of smaller children and one of the older but more bashful girls. Their play was somewhat broken up between short games and running from one part of the yard to another. The last group were the remainder who were listless or backward and took very little interest in any of the plays. Plays originated from two different sources, from the leader or because of the special interest of the game itself. But both were suggested by the environment. Everything that took place around them was "mirrored in their plays," observed Miss Sisson. Whatever they played, their whole heart was in it. She concludes: "It was an expression of the children themselves and truer than any set exercise or experiment could give."

Aesthetic Instinct.—The aesthetic instinct acts in conjunction with many other instincts. In the mating tendencies of the opposite sexes, it plays a very important role. In the human species this is more prominent in the female than in the male. This impulse begins to show itself at the dawn of puberty, especially in the female. The sex phase of the aesthetic instinct seems to be stronger or weaker in proportion as the sex instinct is strong or weak.

The rhythmic impulse is attended in its functioning by a sense of the beautiful—a feeling of the aesthetic as is seen in the effect of poetry or dancing, on the individual. So, too, do the expressive, dramatic, animistic, and constructive instincts have their attending aesthetic phases.

Since the aesthetic instinct functions in conjunction with the functioning of so many other instincts, its development depends in a great measure on the development of these other instincts.

Since the individual, during the period of childhood, is largely sensory and motor in its reactions to its environment, we find the aesthetic impulse has its basis in things of sense and motion, especially in color, sound, odor, and rhythm. It should be noted in this connection that the more fundamental aspects of the beautiful appeal to children rather than the more complex, and we might say, accessory. There is a genetic order here as elsewhere. The interest in the more refined aspects is nascent in adolescence.

Appreciation of symmetry and beauty of form seems to develop with the development of the manual skill which does not come very long before puberty—not until the accessory muscles are fairly well developed.

In the matter of adjusting pictures to the native interests of the child, this genetic order could, to advantage, be observed. In general, it is perhaps safe to say that for the lower grades there should be more color and motion, though not of such low order as to create wrong standards. Masterpieces, in which animal life is shown, should be given. In general, as to subject matter, pictures should show that in which the child is interested, at whatever age, and in artistic execution should range up through the grades from simple to complex.

As the individual approaches adolescence, his interest in

beauty of form and color deepens, and grows more refined in his work in drawing. In the earlier years his aesthetic interest in drawing has been chiefly that of color.

Colin Scott has shown that with the advent of the pubertal functioning of the sex-instinct, and increasingly as the individual advances through the years of adolescence, the appreciation of the elements of beauty in every line grows keener. I think that he shows conclusively that the instinct of sex and the aesthetic instinct function in close relationship with each other. This is the period when the interest in the beauty aspect, along whatever line, is nascent. This is the time to do much in literature, art, music, and skilful work in manual training.

Groos thinks that though the aesthetic impulse may not be possessed by the lower animals, yet he thinks the germ of it is there. He thinks it is displayed in three forms, self-exhibition, imitation and decoration. He says: "The bird that adorns his nest imitates the example of others, and expresses his personality in the work. The bird that mimics another often effects the improvement in his own song, and indulges in self-exhibition; and the bird that displays his skill to admiring females does not fail to employ the principles of imitation and decoration. So we find in animals, and especially in birds who, though so distantly related to us, seem by reason of their upright carriage more near, a certain analogy to our own system of arts."

Miss Martin, in the American Journal of Psychology, January, 1905, gives the results of experiments made by her on the comic, a phase of the aesthetic instinct. She found the comic impression from a picture decreases by repeated exposures; that "the presence of a smiling or doleful face in a picture increases its funniness; that increasing the size of a picture and moving it, helps its funniness; that looking at comic and other pictures and listening to jokes increased both the rapidity of the breathing and of the pulse." Earl Barnes reports a study made by himself on London children (Studies in Education, Vol. 2, p. 180). He wanted to know what they considered "the prettiest thing." Children seven and eight said flowers, animals and dolls. Little children seemed to prefer dolls. Landscape, unimportant with children of seven and eight; very important, however, with children of twelve and thirteen. "Buildings, pictures and other works of art," he found, "are not strong centers around which to gather artistic feeling at any time in the elementary school."

Sex Instinct.—It is a question whether sex impulses as such are experienced during the period of childhood, except in abnormal cases. These impulses begin to appear in greater or less degree during the juvenile period—the period of boyhood and girlhood, especially during the latter part of the period, just preceding puberty. But at puberty a great change takes place. During puberty and early adolescence, these sex tendencies become tremendous forces in the individual, and the problem of education is how to long-circuit and sublimate them into higher forms of psychic life. The problem is how best to assist adolescents in crossing this pons so that they will arrive safely at sexual maturity and that, during this period, sex tendencies, in a large degree, shall have been transmuted into love of the beautiful, into broad human sympathies, into healthy religious tendencies, as well as right ideals and a broad outlook on the future. Along no other line can parents and teachers do more and better work in insuring the future

integrity and strength of family life and in improving very materially the condition of eugenics, than in more intelligent and faithful work along the lines of sex education.

Sex differences are manifested in the plays and games of children. This is perhaps due in part to environment, but it is also due, to a great extent, to sex. The girl is interested more in the doll play and in plays that act out domestic life. Boys, on the other hand, take more interest in rough plays and games and in plays that are related to the occupations of men. While much of this is due to social environment, yet it no doubt has a sex background.

During the pubescent period there appears what Dr. Hall calls callow calf love. We see this between the sexes in the upper grammar grades and the early part of the high school. We note it in such games as drop-the-handkerchief, and London bridge. It is also seen in many of the social functions of the pubescent. Boys exhibit this sex tendency in their attempts at showing off, such as walking on their hands and turning somersaults, etc. Girls often reply to such overtures by pretending not to notice what is being done to attract their attention. Again, they may look on approvingly, with responsive giggles. Attachments between the sexes at this time are of short duration.

Later on in adolescence the question of sex attachments becomes more serious, especially with girls who are, by nature, more emotional than boys. As was suggested above, these tendencies should be long-circuited and sublimated as much as possible; but I believe this problem can be solved in part by the method of katharsis. Allow the girl, and the boy for that matter, to read love stories of standard quality. In this way some of these dangerous tendencies can be drafted off. Much wholesome work can be given in romantic literature that appeals to the adolescent, and will help very materially in the forming of right ideals and standards in the realm of the sex tendencies.

At the advent of puberty there is a parting of the ways in almost every respect, in the physical and mental traits of the sexes. It is a question whether it would not be better to separate the sexes in practically all class work. In early adolescence one advantage in separating the sexes is because the girl has greater power to draw upon her forces than does the boy. The presence of the opposite sex, at this age, often tends to the stimulation of rivalry and emulation. This may easily become a menace to the girl's health, as well as to impair her powers of maternity.

Boys and girls should not be denied the privilege of healthy association with one another. This is necessary to their best development. The mutual stimulation of the sexes is necessary to an all around development.

The aesthetic instinct is closely related to the sex impulse, for it is a well known fact that the love of the beautiful is very materially augmented with the advent of adolescence. It is held by many that the aesthetic instinct grew out of the sex

instinct, or perhaps better, that it evolved with the sex instinct. This makes it possible to transform or sublimate much of the sex forces into a love of the beautiful.

The development of the sex instinct augments very materially the development of the imagination, which is the great creative power of the human mind. It is possible to transmute much of the creative principle of the sex instinct into creative forces of the imagination as is seen in mechanical inventions, literary creations, and masterpieces in sculpture and painting.

Groos thinks that the sex instinct is expressed in the form of play in those animals that have a period of youth. "Such phenomena," he says, "are common among young dogs and apes" and "in an antelope only six weeks old." In the adult, courtship is carried on, according to Groos, in various ways; by chasing each other, fluttering, dancing, by coyness on the part of the female, by displaying form and color, by chirping and singing and drumming, etc.

Sanford Bell has a valuable study on "Love between the Sexes" (American Journal of Psychology, July, 1902). He studied the periods of childhood, (three to eight) and the juvenile period, (eight to twelve or fourteen). He found that in the first stage the demonstrations are spontaneous, profuse and unrestrained. Shyness, sense of shame, or self-consciousness are absent. They do not know as yet what sex means. If there is shyness, it is in other actions as well. They manifest their affections by giving gifts and sharing choice possessions. The gift is valued for its intrinsic worth. Through these early attachments, refractory children become docile. Ideas of marriage are often present. The most beautiful and attractive children are usually chosen or are favored. Jealousy is prominent. During the second period, Bell found conditions as follows: "It is characterized by the appearance of shyness, of modesty, especially in girls of self-consciousness and consequent efforts toward self-repression; by the inhibition of the spontaneous, impulsive love demonstrations so freely indulged in during the previous stage (childhood). Boys are more secretive than the girls, but the tendency to conceal the love is present in both." This he thinks the reason why there were fewer returns for this period than for the previous period. They were more successful in hiding their love, so were more difficult to observe. Pairing was conspicuously absent.

PART III.

In this summary a cross-section by periods will be made of the innate or instinctive tendencies treated in the fore-going pages; also, some supplementary matter will be given.

Four stages are recognized, infancy, childhood, juvenile and adolescence, with three transition periods, first dentition, second dentition, and pubescence. The first period, with which we are specially concerned, is that of childhood, or the kindergarten period.

From birth to seven, the brain grows rapidly, both in bulk and weight, but after four the rate of growth falls off markedly. The energy of the brain cells is being consumed in their own growth and the putting out of processes to connect them with other cells. It is a period of structural development—a period of preparation for future functioning and its correlative on the side of activity is play. This is not a time for the stress and strain of serious work, but is the period of spontaneity. It is

truly the kindergarten period. This is the period when the motor and sensory areas of the brain are functioning; hence the child's motor tendencies should be allowed to function in many and varied ways through play and other spontaneous channels. Likewise, he should be abundantly supplied with sense material. This is a period of activity and sense objects. The nerve centers that control the large fundamental movements of the body are functioning and co-ordinations are being established. These centers belong to the lower levels. Racially, they are the older and more stable. They should have their inning during childhood. The later and finer accessory movements which develop during the juvenile and adolescent periods depend for their successful functioning on how well these larger and more fundamental movements are developed during childhood.

Based on the child's motor tendencies, as well as on his expressive and constructive tendencies, is the subject of drawing. Whatever he does in this subject, his movements should be large and free and spontaneous. There is a tendency for the child to draw what is in his mind, rather than the objects before him. It is more a tendency to express than to represent. His tendency to represent things in his drawings does not function much before the juvenile period. This work during childhood may be called picture writing. He should be led to tell many stories in this picture writing, though it be crude; for this is truly expression and aids much in this aspect of his education.

Related to this work in which, likewise, the instinctive tendencies of expression, construction, movement, imitation and play are involved, is the work in sand, clay, paper-cutting, and gift work, the phase of the work given being that involving only the larger, freer movements.

This is the period for the individual to gain such mastery of his mother tongue that the subsequent study of another language will not tend to corrupt his pronunciation or English idiom. It is a question whether any other language should be taught during the period of childhood but the mother tongue. Chief emphasis should be laid on the Anglo-Saxon element, which represents the fundamentals of the mother tongue.

The principal instincts that are involved in the child's learning of the mother tongue are the expressive, motor and dramatic instincts, and especially the instinct of imitation. It is, perhaps, not too much to say that if the child is so environed that he hears nothing but choice English, imitation will do the rest.

The child's literary and historical interests center in the Mother Goose rhymes and jingles, the fairy story, and the myth. These are made up of fragmentary sense pictures in which causal relations are left out. They are the true basis, however, for later work in literature and history in the more mature and adult sense of the term. The historical sense does not manifest itself much before the ninth or tenth year.

The child's rhythmic tendencies have much to do in cultivating his literary sense, especially for poetry. This is the basis for his interest in rhymes and jingles, as well as for his interest in dancing and other rhythmic movements of the body. This tendency is also at the basis of his interest in music.

The instinctive tendencies that are at the basis of his interest in the fairy story and myth are chiefly the animistic, hunting, and religious instincts. His mythopoeic tendencies, which are a phase of his animistic tendencies, are very active in these early literary forms. This is his attitude toward the world, and it is through such literary forms that the world must be revealed to him. Through myth and story, much of fear is purged from his soul; he is brought into close and sympathetic relations with his environment, and he tends to get into right relations with those forces of nature that are above and beyond him, and thus is his religious nature truly cultivated.

Closely related to his literary interests is his interest in nature and practically the same tendencies are involved. These subjects should be closely correlated. The collecting instinct is active and can well be made a way of approach in leading the child to an interest in nature. Imitation acts in conjunction with the collecting instinct, so that the child collects anything that he sees others collecting. Nature poetry should be closely correlated with the child's work in nature study.

The cause and effect relations that belong to science are not within the comprehension of the child. These powers do not belong to the sensory-motor areas, but belong to the higher levels and mature much later. His interest in nature is, to a great extent, mythopoeic. He is not interested in cause and effect relations, but his thinking is fragmentary. He deals with individual objects that appeal to him through his senses. In the natural history phase of his interest in nature, his interest is chiefly in collections, but not in the classification of these collections.

The child is unable to grasp ethical relations; hence his moral training must be based on example and authority. What is allowed him is right and what denied him is wrong. This continues to be the condition well into the juvenile period and in a vanishing degree till puberty. The child's moral standards are based on concrete and specific facts. Authority itself is a fact of his sense experience. Argument and reason are not to be used in the moral training of the child. Implicit and prompt obedience should be exacted of him. His moral sense is automatic, or at most only incipient.

The child's imagination is very active and his discriminating judgment is lacking. As a result, he is subject to illusions and delusions, especially the latter. This accounts, in a great measure, for the frequent tendency among children to lie. This apparently evil tendency in children is not to be taken too seriously, for usually it fades out as the child's judgment develops.

The imagination is an ever present element in practically all of the instincts that function during the period of child-

hood. This is especially true of the play instinct. Every kind of activity that the child is interested in has its play aspect. In fact, this play aspect is his interest in the activity, so that this whole summary of the period of childhood is really a discussion of his play interests. The child's emotions are impulsive and with little depth. He is wholly self-centered. He must be egoistic in order that later he may be altruistic. This is his normal condition. The child cannot apply himself to one thing for any length of time. Control and inhibition are his in small degree.

Following the period of childhood is a brief transition period covering about two years, from seven to nine. It is the period of second dentition and is a period of general readjustment which causes many disturbances. Chewing surface is considerably reduced; the heart is not well adjusted to its work; breathing is somewhat affected; more susceptibility to fatigue. The brain has practically finished its growth in weight and size.

In regard to the tendencies and interests of the individual during this period, there are perhaps none peculiar to this period. They are, on the one hand, tendencies and interests of the previous period, in varying degrees—either fading out, acting with equal or increasing vigor; or, on the other hand, they are incipient tendencies that are nascent during the juvenile period. The tendencies and interests that we find in the individual of about nine years of age—the beginning of the so-called juvenile period—have already been functioning in greater or less degree during the transition period just mentioned. There should be as little stress and strain as possible during this transition period.

The periods of infancy and childhood were periods of rapid brain growth, in size and weight. The work of structural development and neuro-muscular co-ordination are now well under way at the age of nine, the beginning of the juvenile period. This was well begun during the transition period just described. In this co-ordination the muscles are co-ordinated in their actions with the emotions and the intellect. As compared with the fancies of childhood, the imagination has advanced considerably in its development, due especially to the growth of discriminating judgment. Imagination is still of rather a low order as compared with the imagination of the adolescent.

Motor tendencies are nascent during this period. Growth is much slower and on this account there seems to be an accumulation of energy. The juvenile has great power to resist disease and fatigue. He is capable of much mental drudgery. He is very active, due to this superabundance of energy. This is the time for drill, habituation, and mechanism.

These motor tendencies are closely bound up with general mental development. This is especially true of the relationship between the hand and the brain. The motor and constructive tendencies function together and make possible much work in manual training. Activity is no longer an end in itself,

but the interest is rather in what may be accomplished through the activity. For this reason the juvenile should be allowed to make that for which he will have some immediate use. Utility, rather than skill, should be sought now. Co-ordinations of the finer muscles have sufficiently taken place in the hand, vocal apparatus, and eye, so that this may be considered the nascent period, for writing, drawing beginning work in manual training, and reading; also the acquiring of technique on musical instruments. This is the best time to learn correct pronunciation of a foreign language.

The expressive instinct is functioning vigorously at this time, and in conjunction with the constructive and motor instincts, much effective work may be done in drawing. There should be much drawing as a form of expression. He should represent, in the form of drawing, things as he sees them, whether an object of sense, or an object of thought—a mental picture drawn from the fields of literature and history. In such a way, a true foundation is laid for art.

The work in expression during this period should be chiefly oral. The short circuit from ear to mouth should be used because it is biologically much older and hence more fundamental than the long circuit from eye to hand, which is recent in its origin. Hence, written composition should be subordinated to oral expression. In this way, the child will be led to write as he speaks and this fluency and cogency will be established in the use of the pen. The expressive instinct, if allowed to function normally, leads the individual to express that which is within, but through wrong methods it is often perverted and arrested in its development, and is made bookish and formal.

The instinct of expression may function in an effective way through song. The child's emotions may flow out through this avenue of expression and through this method of cultivating the emotions he may be taught to love home and fatherland; to come into closer harmony with nature and to experience a true religious growth.

Since the expressive instinct is nascent at this time, and verbal memory active, and since language interests run high, this is the fitting time to teach the child the rudiments of whatever foreign languages he is to learn. If anything is ever to be done in Latin and Greek, the work should be begun during the latter part of this period. No work in grammar should be introduced. This belongs to a later period.

Through the functioning of the self-regarding instinct, together with related instincts as rivalry and emulation, the child is interested in biography and hero stories. Through his interest in the hero story, the child should be made acquainted with the great characters of these literary sources, as Ulysses, Aeneas, Siegfried, King Arthur, etc. Also Old Testament characters. These stories will help very materially in forming right ideals and in cultivating a taste for good literature. These tendencies and interests form the way of approach in teaching history as well. It should be taught in the form of story and

biography. In fact, we might say that literature and history are one and the same thing here, if the historical matter used has a literary style. Otherwise, there is a slight divergence.

Self-assertion is shown in many of the games played. This is due, in great measure, to motor tendencies in which co-ordinations are being well established. In such games, the instincts of rivalry and emulation function vigorously. In the earlier part of the period, many games are still played in which imitation is present; but this becomes a vanishing quantity with the development of motor and self-assertive tendencies. Later in this period, as the gregarious instinct makes itself felt, there is a tendency to play co-operative and group games. Tendencies that belonged to the individual are passing over to the group. The instinct of co-operation is still too weak to hold these groups together any length of time.

The functioning of the gregarious instinct during the latter part of this period leads to an interest in his fellows rather than in adults. Boys and girls are interested in members of their own sex who are of about their own age. This instinct, especially a little later, leads to the forming of clubs and gangs. Such organizations, if properly directed, may be turned to educational account. This is the point of contact in the social education of the child. Beginnings may be made here in cultivating altruism, though there is still much selfishness, thoughtlessness, and cruelty in the individual at this time. His hunting instinct is functioning now. This leads him to go out on predatory expeditions, to steal and destroy. This is the time when the boy wantonly destroys life. The collecting instinct is active now and there is a tendency to classify, in a crude way, what is collected. The collecting and hunting instincts should be taken advantage of in leading the child to an interest in nature, which now may be made a natural history interest. The aesthetic instinct which is functioning in a crude way may be enlisted here in making collections of beautiful objects. Immediately bound up with these interests is the interest in geography, which should be chiefly home geography. The juvenile should be made thoroughly acquainted with his environment—not only its topography and its natural history, but also he should become acquainted with its industries. The juvenile is interested chiefly in action, so that in the work in literature he is interested chiefly in narrative. This narrative literature should have much of the heroic element, but action should be the predominating element, whether prose or poetry. Since verbal memory is very active, much choice material from literature should be committed to memory. Based on his interest in animal life, much work should be given in nature literature.

His moral and religious tendencies are not very active yet. In his moral training, reasoning should still be absent to a great extent. It should be based on authority. He should be trained to habits of obedience. On the side of his religious tendencies, form and ceremony appeal to him. He should be trained to habits of respect and reverence.

The first two years of the adolescent period are usually known as the pubescent period. This is a period of radical readjustment, both physically and mentally. It is a period of greatest bodily growth. The heart grows more rapidly, proportionately, than do the blood vessels, causing an increase in blood pressure. The chest capacity increases markedly. The sex organs are developing. Brain cells are taking on their final form and function, as to grouping, centers and connections. There is now a rapid development of association fibers. There is a great tendency to nervous disorders. There is often a disproportionate growth of bones and muscles, which causes awkwardness. Motor tendencies revert, to a certain extent, to functioning through the fundamental muscles. Emotional tendencies take definite shape and dominate the life. They appear in such forms as anger, jealousy, fear, love, pity, rivalry, emulation. The individual is pugnacious, sympathetic, lazy, self-conscious, poetic, romantic, self-sacrificing, self-assertive, moral, immoral, given to revery and day dreams—he can be almost all of these in a short space of time. This is a new birth and the self is reaching out in many directions.

Hereditary tendencies now come upon the stage and fight for mastery. Life becomes real and serious. Heroism and criminality may now become real in the life. There is a tendency to be influenced by adults, rather than by companions.

The self-regarding instinct is nascent. Its manifestations are seen in bashfulness, self-consciousness, self-assertion, modesty, reverence, respect, docility, shame, boasting, swaggering, vanity, and fool-hardiness. Through the right functioning of these tendencies, the individual finds his true place as a member of society. The functioning of these tendencies has much to do with his interest in literature and history. The instincts of rivalry and emulation are closely related and aid in creating this interest. With the aid of imagination, these tendencies have much to do in the forming of ideals. Through the functioning of these tendencies, the individual grows introspective. If normal, he thus gets a true perspective of himself. This passes over into self-respect and out of this grows a phase of altruism—a respect for the rights of others.

The instinct of curiosity is now very strong. There is scarcely a thing in which the adolescent may not be made interested.

The collecting instinct is still functioning, and in addition to its scientific aspect, it takes on a social aspect. There is often much sentiment attached to the things collected. It sometimes becomes a fad.

During the period of pubescence, and adolescence immediately following, the expressive tendencies are not equal to the task of expressing what is in the soul. Impression is now much greater than expression. Examinations are by no means a true test of what the youth knows and feels.

The rhythmic instinct functions now in its highest forms. With the aesthetic instinct, it is at the basis of the auditory appeal in literature and music. The adolescent enjoys the very

highest forms of poetry. These two tendencies should be stimulated far more than they are, by giving more work in poetry and music in the schools. Work in nature study may be correlated with literature. The adolescent is keenly alive to the beauties of nature, poetry and music.

The constructive, aesthetic, and expressive instincts are at the basis of the work in drawing in which now the art aspect should be emphasized. Masterpieces should be available in great works of art to aid in building up right ideals and standards of beauty in art.

It is during the adolescent period that the moral instinct, in a true sense, functions. This instinct functions in connection with the self-regarding instinct, and leads the individual to conform his life to standards making for his own good, and for the good of others. Through these instincts and the gregarious instinct he comes to know his true place in relation to those about him.

The general condition of readjustment during the early part of the adolescent period—the pubescent—with its attending uncontrolled emotions brings on a feeling of unrest which appears in one form in the functioning of the migratory instinct. This is the runaway and truant period. This feeling of elsewhereness may be worked off through manual training and excursions to study nature first hand.

In the true sense, the religious instinct functions, with the dawn of adolescence, usually during its first part, pubescence. The religious instinct is closely bound up with the sex instinct in its functioning. It is a transition from egoism to altruism; a coming into harmony with the great forces about him. This pons must be crossed, whether suddenly or slowly, else the self must ever live within narrow bounds. He must come into harmony with this larger life and be guided by it. There is a sense of incompleteness. Dimly he feels a larger world into which he would enter. This upward and outward push of the soul can be fostered and satisfied, in a great measure, through contemplating the great forces of nature and through the study of literature, in which sublimity and grandeur and beauty are found, reflecting these elements as found in nature and in the lives of men.

The play instinct should be allowed to function in harmony with the other tendencies of the adolescent. They should develop the social consciousness. They should develop manly and womanly qualities. They should cultivate altruism. Through them dangerous emotional tendencies should find a vent and be sublimated to higher forms of functioning. Cooperative and group games are chiefly in order now. Such games as foot-ball, basket-ball, base-ball and tennis are usually played at this time.

At the advent of puberty, the sex instinct begins to function. As has been shown in the discussion of the other tendencies of adolescence, it brings with it radical changes all along the line. There is a parting of the ways in almost every respect between the sexes at this time. The question

for education to solve in this matter of sex education, is how to sublimate these sex tendencies and to transform them into higher forms of psychic life. Many tendencies are radiations from sex, chief of which is the aesthetic. By stimulating this tendency through art, literature and the study of nature, sex tendencies may be sublimated to higher planes of functioning.

The characteristic differences between the sexes may be noted as follows: In the boy, reflection and judgment are more strongly developed. He loves adventure; is more courageous, independent and patriotic. The girl is more sentimental; more sensitive to what people say and think of her. Her sympathies are keener; her moral impulses are stronger; she is more religious. Her powers of imagination are stronger; her intuitions truer. She acquires reserve, dignity, and poise much sooner than does the boy.

In conclusion, we may say, the way of approach to the child is through his native interests, which, in turn, are conditioned by his innate or instinctive tendencies. He is adjusted to his environment largely through imitation. Play is training for later serious activities. The functioning of early tendencies conditions the functioning of later ones; fundamental development conditions accessory. There is a law of succession here, based on recapitulation. Plasticity and adaptability depend on the number and variety of tendencies stimulated to function. The innate tendencies are the forces in the child's life that initiate experience, which, passing over into habit, leads to character building. In character building the innate tendencies furnish the impelling forces, while environment furnishes the content.

The highest laws of life, and therefore of education, are the laws whose foundations are on the very bed-rock of instinctive tendencies, which represent the very best that the past has to offer the present; for these race tendencies are those forces that made for good in the lives of our forebears. Therefore, a true knowledge of how best to educate the child must be obtained through the study of instinct as related to education.

Bibliography.

1. Baldwin, J. M. Mental development in the child and in the race. Macmillan, N. Y., 1895, p. 496.
2. Barnes, Earl. A study of children's interests. Studies in education. Stanford University, 1896-97, p. 400.
3. Boodin, John E. Mind as instinct. Psy. Rev., 1906, Vol. 13, pp. 121-139.
4. Bryan, E. B. Nascent stages and their significance. Ped. Sem., Oct., 1900, Vol. 7, pp. 357-396.
5. Burk, Caroline Frear. The collecting instinct. Ped. Sem., July, 1900, Vol. 7, pp. 179-207.
6. Burk, Frederic. From fundamental to accessory in the development of the nervous system and of movements. Ped. Sem., Oct., 1898, Vol. 6, pp. 5-64.
7. Burnham, W. H. The study of adolescence. Ped. Sem., June, 1891, Vol. 1, pp. 174-195.
8. Burr, Hanford M. Studies in adolescent boyhood. Assoc. Seminar, 1906, Vol. 15, pp. 5-16, 45-61, 85-97.
9. Chamberlain, A. F. The child: A study in the evolution of man. W. Scott, Ltd., London, 1903, p. 498.
10. Chrisman, Oscar. Pubescent period. Education, Feb., 1899, Vol. 19, pp. 342-347.
11. Clouston, L. S. Child study. Paidologist. July, 1903, Vol. 5, pp. 66-77.
12. Dawson, George E. Children's interest in the bible. Ped. Sem., July, 1900, Vol. 7, pp. 151-178.
13. Dewey, John. Interest as related to will. Second supplement to the Herbart Yearbook, 1895.
14. Dewey, John. The school and society. Univ. of Chicago Press, Chicago, 1899, p. 125.
15. Eby, Frederick. The reconstruction of the kindergarten. Ped. Sem., July, 1900, Vol. 7, pp. 229-286.
16. Forbush, W. B. The social pedagogy of childhood. Ped. Sem., Oct., 1900, Vol. 7, pp. 307-356.
17. Groos, Karl. The play of man. (Trans. by Elizabeth L. Baldwin with a preface by J. Mark Baldwin.) D. Appleton & Co., N. Y., 1901, p. 412.
18. Guillet, Cephas. Recapitulation and education. Ped. Sem., Oct., 1900, Vol. 7, pp. 397-446.
19. Gulick, L. H. Psychological, pedagogical, and religious aspects of group games. Ped. Sem., March, 1899, Vol. 6, pp. 135-151.
20. Hall, G. Stanley. Adolescence. New York, D. Appleton & Co., 1904, 2 vols., pp. 589, 784.
21. Hall, G. Stanley. The natural activities of children as determining the industries in early education. Proc. N. E. A., 1904, pp. 443-447.
22. Hall, G. Stanley and Smith, Theodate L. Curiosity and interest. Ped. Sem., 1903, Vol. 10, pp. 315-358.
24. Hall, G. Stanley and Smith, Theodate L. Showing off and bash- adolescents. Ped. Sem., June, 1891. Vol. 1, pp. 196-210.
23. Hall, G. Stanley. Moral and religious training of children and fulness as phases of self-consciousness. Ped. Sem., June, 1903. Vol. 10, pp. 159-199.
25. Hall, G. Stanley. A study of anger. Am. Jour. of Psy., July, 1899, pp. 516-591.
26. Hall, G. Stanley. A study of fears. Am. Jour. of Psy., Jan., 1897, Vol. 8, pp. 147-249.
27. Hoyt, Wm. A. The love of nature as the root of teaching and learning the sciences. Ped. Sem., Oct., 1894, Vol. 3, pp. 61-86.
28. James, William. Principles of psychology. Henry Holt & Co., New York, 1896, 2 vols., pp. 689-704.
29. Johnson, George Ellsworth. Education by plays and games. Ginn & Co., Boston, 1907, p. 234.

30. KING, IRVING. Psychology of child development. University of Chicago Press, Chicago, 1903, p. 265.
31. KIRKPATRICK, EDWIN A. Fundamentals of child study. Macmillan Co., New York, 1903, p. 384.
32. KLINE, L. W. and FRANCE, C. J. The psychology of ownership. Ped. Sem., Dec., 1899, Vol. 6, pp. 421-470.
33. KLINE, LINUS W. Truancy as related to the migrating instinct. Ped. Sem., Jan., 1898, Vol. 5, pp. 381-420.
34. LANCASTER, E. G. The psychology and pedagogy of adolescence. Ped. Sem., July, 1897, Vol. 5, pp. 61-128.
35. LINDLEY, E. H. A study of puzzles with special reference to the psychology of mental adaptation. Am. Jour. of Psy., July, 1897, Vol. 8, pp. 431-493.
36. LUKENS, HERMAN T. A study of children's drawings in the early years. Ped. Sem., Oct., 1896, Vol. 4, pp. 79-110.
37. MARSHALL, HENRY R. Instinct and reason. The Macmillan Co., N. Y., 1898, pp. 574.
38. MCDOUGALL, WILLIAM. Social psychology. Methuen and Company, London, 1908, pp. 355.
39. MONROE, WILL S. Adolescence: Its psychology and pedagogy. Jour. of Ped., Sept., 1904, Vol. 17, pp. 8-23.
40. SMALL, MAURICE H. The suggestibility of children. Ped. Sem., Dec., 1896, Vol. 4, pp. 176-220.
41. STARBUCK, EDWIN DILLER. Some aspects of religious growth. Am. Jour. of Psy., Oct., 1897, Vol. 9, pp. 70-124.
42. SWIFT, EDGAR J. Some criminal tendencies of boyhood. A study in adolescence. Ped. Sem., March, 1901, Vol. 8, pp. 65-91.
43. TAYLOR, JOSEPH S. Some practical aspects of interest. Ped. Sem., April, 1898, Vol. 5, pp. 497-511.
44. TRACY, FREDERICK. The psychology of childhood. D. C. Heath & Co., Boston, 1893, p. 94.
45. VAN LIEW, C. C. Racial traits in the group activity of children. Proc. N. E. A., 1899, pp. 1057-63.